

U.S. Department of the Interior
Bureau of Land Management
White River Field Office
73544 Hwy 64
Meeker, CO 81641

ENVIRONMENTAL ASSESSMENT

NUMBER: CO-110-2006-131-EA

CASEFILE/PROJECT NUMBER (optional): COC64400 (12-4-398)
COC60737 (12-10-298)
COC61065 (14-16-198)
COC62050 (22-20-198)
COC62050 (23-17-198)
COC58688 (23-3-598)
COC67991 (Right of Way)

PROJECT NAME: Williams' 6 APDs:

12-4-398, 12-10-298, 14-16-198, 22-20-198, 23-17-198, 23-3-598

LEGAL DESCRIPTION: T. 3 S., R. 98 W., Sec. 4 (12-4-398)
T. 2 S., R. 98 W., Sec. 10 (12-10-298)
T. 1 S., R. 98 W., Sec. 16 (14-16-198)
T. 1 S., R. 98 W., Sec. 20 (22-20-198)
T. 1 S., R. 98 W., Sec. 17 (23-17-198)
T. 5 S., R. 98 W., Sec. 3 (23-3-598)

APPLICANT: Williams Production RMT Company

ISSUES AND CONCERNS (optional): A separate right-of-way (ROW) application for the pipeline route for each location was submitted by Bargath, Inc. for locations 12-4-398, 12-10-298, 14-16-198, 22-20-198 and 23-17-198. A pipeline ROW has not been received for location 23-3-598.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:

Background/Introduction: Applications have been received to construct 6 well pads and access roads to each location (12-4-398, 12-10-298, 14-16-198, 22-20-198, 23-17-198, 23-3-598). Applications have been received to install 5 pipelines (12-4-398, 12-10-298, 14-16-198, 22-20-198 and 23-17-198). Well 23-3-598 does not have a ROW application submitted and will have to be analyzed at a later date. Site characteristics of each proposed well location are summarized in Table 1.

Table 1 Dominant vegetation, elevation, watershed, well and road density for the proposed well locations.

Well Number	Dominant Vegetation	Elevation (ft)	Well Density (sq. mi)	Road Density (sq. mi)	Watershed
14-16-198	Wyoming big sagebrush (<i>Artemisia tridentata</i> subsp. <i>Wyomingensis</i>)	6456	<1 producing wells per square mile	1.04	Yellow Creek
23-17-198		6460		1.09	
12-4-398	Greasewood and Basin big sagebrush	6620		2.23	Black Sulfur Creek
12-10-298		6431		1.52	Ryan Gulch
22-20-198	Pinyon-juniper	6506		1.36	Yellow Creek
23-3-598	Mountain big sagebrush	8342		3.47	Clear Creek

Proposed Action: The proposed action includes constructing six well pads (see Table 2 for pad dimensions and total area disturbed). Total area disturbed including overburden to construct well pads and access roads will be approximately 27.18 acres.

Table 2. Pad dimensions and acres disturbed for the proposed well pads and access roads.

Well Number	Pad Size (ft)	Disturbance ^a (Acres)	New Access Road/Pipeline	Disturbance (Acres)
12-4-398	250x 400	2.50	374 x 30 ft.	0.26
12-10-298	250 x 403	2.51	98 x 30 ft.	0.07
14-16-198	250 x 400	2.43	4,660 x 30 ft.	3.21
22-20-198	250 x 400	2.51	2,112 x 30 ft.	1.45
23-17-198	250 x 400	2.54	8,271 x 30 ft.	5.70
23-3-598	250 x 350	2.20	2613 x 30 ft.	1.8
Total		14.69	Total	12.49
Total acres disturbed				27.18

^a Estimate includes total acres disturbed for pad surface and overburden.

All access roads and surface disturbing activities will conform to standards outlined in the BLM Gold Book, *Oil and Gas Surface Operating Standards for Oil and Gas Development* (Sept 28, 2005)

Any fences crossed by an access road and /or pipeline to a well location will have a cattleguard installed and maintained to BLM specifications for the lifetime of the project. *All cattleguard/fence work will take place prior to well location, pipeline or plant construction.*

All roadside and well location cut and fill slopes will be revegetated immediately after construction with the seed mixture(s) specified in the conditions of approval. Such revegetation will be either temporary or permanent.

All reserve pits will be fenced to BLM specifications. These specifications will be provided to the operator as part of the Conditions of Approval

Produced waste water could be confined to the pit for a period of 90 days after initial production. During the 90 day period the required waste analysis will be submitted for the Authorized Officer's approval, pursuant to Onshore Oil and Gas Order No. 7 (NTL-2B). A permanent steel tank will be installed in the ground next to the production facilities to contain any produced water for the duration of the well.

Water based reserve pit fluids will be backfilled within one year of construction or by the end of the succeeding summer to allow for evaporation of fluids unless an alternative method of disposal is approved. The backfilling of the reserve pit will be done in such a manner that the mud and associated solids will be confined to the pit and not squeezed out and incorporated into the surface materials. There will be a minimum of three feet of cover (overburden) on the pit. All remaining cutting will be solidified and buried in place, or disposed of in an approved manner. The stockpiled ground cover will be evenly distributed over the disturbed areas. The recommended seed mix to be used on all disturbed areas will be determined by the White River Field Office (WRFO). The dirt contractor will be provided with an approved copy of the surface use plan.

Williams will build a temporary lined pit to store frac water while completing the well. The frac pit will be reclaimed immediately following completion.

Chemical pesticides or any other control agent which represents a potential soil, air or water pollutant will not be utilized for any purpose on public lands without express written authorization from the Authorized Officer of the BLM.

The Operator or his contractor will notify the BLM, White River Field Office, (970) 878-3800, forty-eight (48) hours before starting reclamation work that involves earth-moving equipment and upon completion of restoration measures.

During the environmental assessment process for this area, cultural resource clearance inventories were submitted under separate cover by Grand River Institute. Paleo and threatened and endangered species surveys have been completed for the proposed location.

The pipeline routes will follow proposed access roads to five of the six wells. Estimated time for construction is 60-90 days. Pipeline construction will commence upon completion of the wells, weather permitting. If construction is to be delayed for any reason, BLM will be contacted, timing issues will be discussed and a new timetable agreed upon. Buried pipeline installation will entail the trenching of the surface in order to bury the pipe with a minimum cover of 36 inches. Trench width will be 24 inches maximum. Pipe will be welded on the surface and laid in the ditch. Material removed in the trenching process will be replaced as cover.

Construction of well pads and access roads will begin in August 2006. The anticipated duration for construction related activities is 45-60 days which includes drilling and completion.

No Action Alternative: Under the no action alternative, the application would be denied and the well pads and access roads would not be constructed.

NEED FOR THE ACTION: To respond to request by applicant to exercise lease rights and develop potential hydrocarbon reserves.

PLAN CONFORMANCE REVIEW: The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3):

Name of Plan: White River Record of Decision and Approved Resource Management Plan (ROD/RMP).

Date Approved: July 1, 1997

Decision Number/Page: Pages 2-5 thru 2-6

Decision Language: “Make federal oil and gas resources available for leasing and development in a manner that provides reasonable protection for other resource values.”

AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES / MITIGATION MEASURES:

STANDARDS FOR PUBLIC LAND HEALTH: In January 1997, Colorado Bureau of Land Management (BLM) approved the Standards for Public Land Health. These standards cover upland soils, riparian systems, plant and animal communities, threatened and endangered species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. Because a standard exists for these five categories, a finding must be made for each of them in an environmental analysis. These findings are located in specific elements listed below:

CRITICAL ELEMENTS

AIR QUALITY

Affected Environment: The entire White River Resource area has been classified as either attainment or unclassified for all pollutants, and most of the area has been designated prevention of significant deterioration (PSD) class II. The proposed action is not located within a ten mile radius of any special designation air sheds or non-attainment areas. The air quality criteria pollutant likely to be most affected by the proposed actions is the level of inhalable particulate matter, specifically particles ten microns or less in diameter (PM₁₀) associated with fugitive dust. In addition, slight increases in the following criteria pollutants: carbon monoxide, ozone (secondary pollutant), nitrogen dioxide, and sulfur dioxide may also occur during construction due to the combustion of fossil fuels associated with construction operations. Also, non-criteria pollutants such as visibility, nitric oxide, air toxics (e.g. benzene) and total suspended particulates (TSP) may also experience slight short term increases as a result of the proposed actions (no national ambient air quality standards have been set for non-criteria pollutants). Unfortunately, no monitoring data is available for the survey area. However, it is apparent that

current air quality near the proposed location is good because only one location on the western slope (Grand Junction, CO) is monitoring for criteria pollutants other than PM₁₀. Furthermore, the Colorado Air Pollution Control Division (APCD) estimates the maximum PM₁₀ levels (24-hour average) in rural portions of western Colorado like the Piceance Basin to be near 50 micrograms per cubic meter (µg/m³). This estimate is well below the National Ambient Air Quality Standard (NAAQS) for PM₁₀ (24-hour average) of 150 µg/m³.

Environmental Consequences of the Proposed Action: Cumulative impacts detrimental to air quality in the Piceance Creek Basin can be expected as carbon monoxide, ozone (secondary pollutant), nitrogen dioxide, particulate matter, and sulfur dioxide levels are elevated due to increased oil and gas development. Construction equipment producing elemental and organic carbon via fuel combustion combined with surface disturbing activities that leave soils exposed to eolian processes will both increase production of particulate matter (PM₁₀) during construction. Elemental and organic carbon existing in the air as PM₁₀ can reduce visibility and increase the potential of respiratory health problems to exposed parties. However, following initial construction, suggested mitigation, and successful interim reclamation, criteria pollutant levels should return to near pre-construction levels.

Environmental Consequences of the No Action Alternative: None

Mitigation: The operator will be responsible for complying with all local, state, and federal air quality regulations as well as providing documentation to the BLM that they have done so. To minimize production of fugitive particulate matter (fugitive dust) from associated access roads, vehicle speeds must not exceed 15 mph *or* dust plume must not be visible at appropriate designated speeds for road design. In addition, the application of a BLM approved dust suppressant (e.g. water or chemical stabilization methods) will be required during dry periods when dust plumes are visible at speeds less than or equal to 15 mph. Surfacing access roads with gravels will also help mitigate production of fugitive particulate matter. Land clearing, grading, earth moving or excavation activities will be suspended when wind speeds exceed a sustained velocity of 20 miles per hour in populated areas. Disturbed areas will be restored to original contours, and revegetated as outlined in the vegetation portion of this EA. Following seeding, woody debris cleared from the ROW will be pulled back over disturbed surfaces to increase effective ground cover and help retain soil moisture.

Construction equipment will be maintained in good operating condition to ensure that engines are running efficiently. Vehicles and construction equipment with emission controls will also be maintained to ensure effective pollutant emission reductions.

CULTURAL RESOURCES

Affected Environment: The proposed 12-4-398 well pad, access road and pipeline has been inventoried at the Class III (100% pedestrian) level (Conner et al 2005, Compliance Dated 10/03/2005, Highland 2005, Compliance Dated 7/28/2005) with no cultural resources identified in the proposed well pad or access road areas.

The proposed 12-10-298 well pad, access road and pipeline has been inventoried at the Class III (100% pedestrian) level (Conner 2005, Compliance Dated 6/17/2005) with no cultural resources located in the inventoried area. However, there are many sites in the surrounding area (within the 308 meter surrounding the inventory area) that could experience impacts from increase activity in the area

The proposed 14-16-198, 22-20-198 and 23-17-198 well pads, access roads and pipelines have been inventoried at the Class III (100% pedestrian) level (Conner et al 2005, Compliance Dated 10/03/2005) with one register eligible, one potentially register eligible site and three isolated finds located in the project area.

The proposed 23-3-598 well pad and access road has been inventoried at the Class III (11% pedestrian) level (Conner 2006, Compliance Dated 5/26/2006) with no cultural resourced identified in the project area.

Environmental Consequences of the Proposed Action: The proposed 12-4-398 well pad, access road and pipeline: There would be no new impacts to any know cultural resources during construction or operation of this natural gas well or its access road.

The proposed 12-10-298 well pad, access road and pipeline: No sites are know directly within the proposed well pad area however there are at least threes sites in the general area that could be impacted by increased traffic and construction activity at the well location. Two of the sites are historic structures and one is a prehistoric site. Vibrations from construction and drilling could impact the historic structures and unauthorized collection and/or vibrations and fugitive dust could impact the prehistoric site.

The proposed 14-16-198 well pad, access road and pipeline to this well pad location has the very high potential to cause direct and indirect impacts to sites that are either eligible or potentially eligible for listing on the National Register of Historic Places (NRHP). Impacts to the Isolated Finds along the access route could occur but those losses are not considered to be significant to the regional archaeological database.

The proposed 22-20-198 well pad, access road and pipeline: The proposed access road to this well pad location has the very high potential to cause direct and indirect impacts to sites that are either eligible or potentially eligible for listing on the National Register of Historic Places (NRHP). Impacts to the Isolated Finds along the access route could occur but those losses are not considered to be significant to the regional archaeological database.

The proposed 23-17-198 well pad, access road and pipeline: The proposed access road to this well pad location has the very high potential to cause direct and indirect impacts to sites that are either eligible or potentially eligible for listing on the National Register of Historic Places (NRHP). Impacts to the Isolated Finds along the access route could occur but those losses are not considered to be significant to the regional archaeological database.

The proposed 23-3-598 well pad, access road and pipeline: The proposed well pad and access road will not impact any known cultural resources in the project area or the surrounding 308 meters.

Environmental Consequences of the No Action Alternative: There would be no new impacts to cultural resources under the No Action Alternative.

Mitigation: 1. The proposed well pads and access roads: a) The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary)
- a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

b) Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

2. For the proposed 12-10-298 well pad, access road and pipeline:

a) All personnel from drilling, construction and maintenance crews shall be required to remain on the well pad or the county road or access road to the well pad to prevent unauthorized collection of artifacts or damage to resources in the area.

b) The company shall be responsible for ensuring that sites in the vicinity are protected and are not vandalized or otherwise impacted as a result of operations for the life of the project.

3. The proposed 14-16-198, 22-20-198, and 23-17-198 well pads and access road:

a) The holder shall be responsible for ensuring the contextual integrity of the sites involved against vandalism due to the increased access to the sites as a result of construction of the

proposed access road to the proposed wells. A complete site map of each site shall be maintained and the site shall be monitored at least once per year to determine if there is an increase in unauthorized collection occurring at the site. The monitoring shall also identify if any unauthorized excavations have occurred at the site. If vandalism has/is occurred/occurring the holder shall be responsible for all mitigation deemed appropriate to recover remaining archaeological data as determined by the BLM.

INVASIVE, NON-NATIVE SPECIES

Affected Environment: The proposed action occurs in a roughly 72 square mile area in the high (23-3-598) middle and lower elevations of Piceance Basin. Noxious and problem weeds known to occur in this area include Russian, spotted and diffuse knapweed, yellow toadflax, mullein, houndstongue and bull thistle. The invasive annual cheatgrass (*Bromus tectorum*) occurs throughout the area primarily in association with unvegetated soil disturbance.

Environmental Consequences of the Proposed Action: The proposed action will create about 28 acres of new earthen disturbance, which if it is not revegetated with desirable species and /or treated with herbicides to eradicate noxious weeds/ cheatgrass, will be invaded and dominated by noxious weeds/cheatgrass, which, in the case of cheatgrass, will increase the potential for fire and the consequent further proliferation of cheatgrass.. Noxious weeds could also spread from the project sites to surrounding native rangelands resulting in a long term negative impact. The resulting proliferation of noxious weeds/cheatgrass would perpetuate a downward cycle of environmental degradation that will be largely irreversible. There will be a low likelihood of long term negative impact if the proposed mitigation is properly implemented.

Environmental Consequences of the No Action Alternative: There will be no change from the present situation.

Mitigation: The operator will be required to monitor the project area for a minimum of three years post disturbance and eradicate all noxious and invasive species which occur on site using materials and methods approved in advance by the Authorized Officer.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial): Vegetation in the project area currently meets the Standard on a watershed and landscape basis and is expected to continue to meet the Standard in the future following implementation of the proposed action and mitigation.

MIGRATORY BIRDS

Affected Environment: The Migratory Bird Treaty Act (MBTA) prohibits disturbance or destruction to an active nest, nesting birds, or their eggs or young. This applies to all birds (including raptors), except non-native species including house sparrow, European starling, rock dove, and upland game birds.

Executive Order (EO) 13186 sets forth the responsibilities of federal agencies to implement further the provisions of the MBTA by integrating bird conservation principles and practices into

agency activities and by ensuring that federal actions evaluate the effects of actions and agency plans on migratory birds.

U.S. Fish and Wildlife Service (USFWS) compiled a list of Birds of Conservation Concern (BCC) to identify migratory and non-migratory bird species (not including those already designated as federally threatened or endangered) that without conservation actions may become candidates for listing under the Endangered Species Act (ESA) (USFWS 2002). Additionally, Partners in Flight (PIF) North American Landbird Conservation Plan (Rich et al. 2004) addresses bird species not protected by other existing conservation programs.

Regarding locations 14-16-198, 23-17-198 and 22-20-198, a variety of migratory bird species fulfill nesting functions in the project area's predominantly Pinyon-juniper woodlands and Wyoming big sagebrush shrublands from late May through early August. For a detailed description of location elevation, watershed and dominant vegetation, see Table. 1. Species associated with these woodland communities are typical and widely represented in the Resource Area and region. Those bird populations identified by the Rocky Mountain Bird Observatory Partners in Flight program as having higher conservation interest include Brewer's sparrow (which occur in sagebrush-dominated areas), and gray flycatcher, pinyon jay, juniper titmouse, black-throated gray warbler, and violet-green swallow, which occur in pinyon-juniper dominated woodlands. The species identified are well distributed at appropriate densities in the White River Resource Area's extensive woodland and shrubland habitats.

Location 12-4-398 and 12-10-298 is encompassed largely by basin big sagebrush with low densities of greasewood scattered throughout. Herbaceous ground cover is comprised of western wheatgrass, basin wild rye, Sandberg bluegrass and squirreltail. Blue-gray gnatcatcher, Brewer's sparrow and Vesper's sparrow are associated with these habitats although these shrublands typically support few nesting birds. There are no species of high conservation interest associated with this project.

The project area for location 23-3-598 consists primarily of mountain big sagebrush, with serviceberry, mountain mahogany, bitterbrush, and black sagebrush scattered throughout. There are a number of migratory birds that fulfill nesting functions in these types from May through mid-July, including several species identified as having higher conservation interest by the Rocky Mountain Bird Observatory, Partners in Flight program (e.g., Brewer's sparrow and sage sparrow). These and more common, generalized species associated with these habitats are widely represented at appropriate densities in extensive suitable habitats throughout the Resource Area.

Environmental Consequences of the Proposed Action: It is anticipated that the pad and access roads would be constructed in early August, 2006, and drilling operations would begin in mid to late August. Heavy equipment use and high levels of activity associated with site construction would occur outside the migratory bird nesting season and would have no potential to disrupt nesting activities. This temporary effect would have no discernible influence on the abundance of local breeding bird populations nor the viability of any breeding bird population affiliated with the Pinyon-juniper or sagebrush type at any landscape scale.

The development of reserve pits in the project area may be expected to attract waterfowl and other migratory birds for purposes of resting, foraging, or as a source of free water. It has

recently been brought to the White River Field Office's attention that migratory waterfowl (i.e., teal and gadwall) have contacted oil-based drilling fluids stored in reserve pits during or after completion operations and are suffering mortality in violation of the Migratory Bird Treaty Act. The extent and nature of the problem is not well defined, but is being actively investigated by the federal agencies and the companies. Until the vectors of mortality are better understood, management measures must be conservative and relegated to preventing bird contact with produced water and drilling and completion fluids that may pose a problem (e.g., acute or chronic toxicity, compromised insulation).

Environmental Consequences of the No Action Alternative: There would be no affect on migratory birds or their habitats under the no action alternative.

Mitigation: It will be the responsibility of the operator to prevent use by migratory birds of reserve pits that store or are expected to store fluids which may pose a risk to such birds (e.g., migratory waterfowl, shorebirds, wading birds and raptors) during completion and after completion activities have ceased. Methods may include netting, the use of bird-balls, or other alternative methods that effectively prevent use and that meet BLM approval. It will be the responsibility of the operator to notify the BLM via **Sundry Notice** of the method that will be used to prevent use two weeks prior to when completion activities are expected to begin. The BLM approved method will be applied within 24 hours after completion activities have begun. All lethal and non-lethal events that involve migratory birds will be reported to the Petroleum Engineer Technician immediately.

THREATENED, ENDANGERED, AND SENSITIVE ANIMAL SPECIES (includes a finding on Standard 4)

Affected Environment: There are no endangered or threatened species that are known to inhabit or derive important use from the proposed project areas for locations 12-4-398, 12-10-298, 14-16-198, 22-20-198, or 23-17-198. However, Greater sage-grouse, a BLM Species of Special Concern, occurs in the proposed project area for location 23-3-598 and is discussed below.

The project area for location 23-3-598 consists primarily of mountain big sagebrush, with serviceberry, mountain mahogany, bitterbrush, and black sagebrush scattered throughout. The proposed action for location 23-3-598 would occur in suitable Greater sage-grouse nesting habitat. Sage grouse typically inhabit open sage-dominated areas, with flat slopes for purposes of breeding and nesting. Sage grouse habitat in the Piceance Basin is naturally fragmented, with suitable nesting and breeding habitat occurring along ridge tops. Grouse populations that occur in the Piceance Basin are unique in their choice of habitat when compared to other sage grouse populations. According to Colorado Division of Wildlife (CDOW) records, less than half of the previously identified leks are currently active. Numerous factors including range management treatments, energy development, drought, and predation may have contributed to this decline. Currently, there are 4 known lek sites (3 active and 1 inactive) within **1.35** miles of the proposed location for well 23-3-598. The nearest active lek is approximately **0.72** miles from the proposed

location. The proposed location is approximately **1.07** and **2.00** miles, respectively from recently approved Williams' locations 13-12-598 and 33-10-598 (see Figures 2 and 3).

A GIS-based model was developed that identifies potential Greater sage-grouse nesting habitat within the Piceance Basin using slope and vegetation. Approximately **39,227** acres of nesting habitat were identified. Spatial analysis of an 8,038 acre area with radius of 2 miles and centered on the nearest active lek identified approximately **413** acres (**5.1** % of the total area) of suitable nesting habitat. Regarding direct impacts to nesting habitat, further analysis identified approximately **2.77** acres that would be potentially affected by oil and gas development as a result of the proposed action within 2 miles of the active lek. Regarding indirect impacts to nesting habitat, approximately **22.23** acres which may be adversely affected by the proposed action were identified within 2 miles of the nearest active lek. A 200 foot (400 ft. total width) buffer around all surface disturbing activities associated with the proposed action was used to calculate indirect impacts to suitable nesting habitat. Regarding total acres of nesting habitat disturbed as a result of the proposed action, approximately **26.62** acres of suitable nesting habitat would be directly impacted, while areas impacted indirectly as a result of the proposed action would equal approximately **249.02** acres.

Environmental Consequences of the Proposed Action: Regarding location 23-3-598, quantifiable evidence of measurable effects (e.g., increased or decreased rates of recruitment, fecundity, or changes in demographics) to grouse as a result of increased vehicle traffic, noise, short and long-term disturbance due to road and well pad construction in the Piceance Basin is inconclusive or does not exist. To date, most information that pertains to mechanisms of Greater sage-grouse population regulation is qualitative in nature, and most likely not directly applicable to the Piceance Basin grouse population. Cumulative loss of habitat as a result of direct and indirect reduction of suitable nesting area through increased vehicular traffic, noise and construction of access roads, pipelines and well pads could remove approximately **249.02** acres of Greater sage-grouse nesting habitat in the project area (<**1** % of all nesting habitat within the Piceance Basin). As specified in the White River ROD/RMP, when greater than 10% of nesting habitat is directly or indirectly affected, a timing limitation will be applied. Direct and indirect impacts to nesting habitat as a result of the proposed action would be less than the 10% threshold, though collectively, other oil and gas activities (i.e., construction of new roads and upgrading existing two-track roads) within the overall range of Greater sage-grouse in the Piceance basin account for greater than 10% of all suitable nesting habitat. As such, development (i.e., construction-related activities) will not be allowed from April 15 through July 7.

Short-term, local effects to sage grouse because of construction-related activities may include displacement of adult and sub-adult grouse into areas of reduced disturbance and increased rates of nest abandonment. In addition, an increase in mortality rates of adult and sub-adult grouse that occur in the project area because of collisions with vehicles may be expected. Long-term effects to sage grouse as a result of increased traffic to and from the well location may include permanent abandonment of areas adjacent to access roads and well pads, and decreased recruitment and fecundity rates. Mitigation that includes limiting vehicular travel along access roads during the breeding season may reduce impacts.

Environmental Consequences of the No Action Alternative: There would be no conceivable influence on special status species under the no action alternative.

Mitigation: As specified in the White River ROD/RMP, when greater than 10% of nesting habitat within 2 miles of an active lek is directly or indirectly impacted, including cumulative loss of habitat, a timing limitation will be applied that limits further development. As such, development (i.e., construction-related activities) will not be allowed from **April 15** through **July 7**. This stipulation applies to all surface disturbing activities.

Finding on the Public Land Health Standard for Threatened & Endangered species: The proposed and no-action alternatives would have no influence on special status species or associated habitats and, as such, would have no influence on applicable land health standards.

WASTES, HAZARDOUS OR SOLID

Affected Environment: There are no known hazardous or other solid wastes on the subject lands. No hazardous materials are known to have been used, stored or disposed of at sites included in the project area. The affected environment for hazardous materials includes air, water, soil, and biological resources that may potentially be affected by an accidental release of hazardous materials during transportation to and from the project area, storage, and use in construction and operations. Sensitive areas for hazardous materials releases include areas adjacent to water bodies, above aquifers, and areas where humans or wildlife would be directly impacted.

Environmental Consequences of the Proposed Action: No listed or extremely hazardous materials in excess of threshold quantities are proposed for use in this project. While commercial preparations of fuels and lubricants proposed for use may contain some hazardous constituents, they would be stored, used and transported in a manner consistent with applicable laws, and the generation of hazardous wastes would not be anticipated. Solid wastes would be properly disposed of.

Environmental Consequences of the No Action Alternative: No hazardous or other solid wastes would be generated under the no-action alternative.

Mitigation: The applicant shall be required to collect and properly dispose of any solid waste generated by the proposed actions.

WATER QUALITY, SURFACE AND GROUND (includes a finding on Standard 5)

Affected Environment: Surface Water: The proposed well pads and associated access roads are situated within three separate fifth level watersheds. Williams' locations 23-17-198, 22-20-198, and 14-16-198 are located within the Yellow Creek fifth level watershed. Locations 12-10-198 and 12-4-398 can be found in the lower Piceance Creek fifth level watershed while location 23-3-598 is in the Upper Roan Creek fifth level watershed. Sixth and seventh level

watersheds likely to be directly impacted by the proposed actions are Yellow Creek, Black Sulphur Creek, Ryan Gulch, and Clear Creek. Yellow Creek is a perennial tributary to the White River. Black Sulphur Creek is a perennial tributary to Piceance Creek. Ryan Gulch is an ephemeral tributary to Piceance Creek. Piceance Creek is a perennial tributary to the White River which is a tributary to the Green River in Utah (tributary to the Colorado River). Clear Creek is a perennial tributary to Roan Creek which is a perennial tributary to the Colorado River.

Stream flows in Piceance Creek and its tributaries generally peak in mid spring as a result of high elevation snowmelt and periodically during late summer and early fall in response to high intensity precipitation events. Ephemeral drainages flow only in direct response to snowmelt and intense summer and early autumn storms. The stream banks of Piceance Creek are generally composed of sand, silt, and clay particles that are less than about one-tenth of an inch in diameter. The bank materials erode easily when stream discharge increases during peak flow conditions. Bank erosion is probably most prominent during the spring snowmelt when high flows persist for several days. The bank material absorbs a large amount of water, becomes soft and easily removable, and sloughs into the stream in large clumps. The stream bed of Piceance Creek is composed of silt, sand, gravel, and occasional cobbles, with pockets of fine material where the velocity of the stream generally is slow. Coarse streambed materials normally move only under peak flow conditions (Norman 1987).

Surface water quality in Piceance Creek is described as mixed bicarbonate in the upper drainages and as sodium bicarbonate in the lower drainages (BLM, 2003). Chemical components found in surface waters are attributed to the weathering of surficial materials in the area. The principal ionic constituents include sodium, calcium, magnesium, bicarbonate, sulfate, chloride, potassium, and fluoride (Tobin 1987). Sodium, bicarbonate, and sulfate levels generally decrease during the spring snowmelt runoff because of the increased amount of water, while chloride and fluoride remain essentially constant. Calcium and magnesium concentrations show small decreases, and potassium increases during the snowmelt. During the irrigation season, sodium becomes concentrated, and calcium and magnesium concentrations increase. Approximately eighty percent of annual flows in Piceance Creek originates as discharge from alluvial and bedrock aquifers (Tobin, 1987).

The “Status of Water Quality in Colorado –2006” (CDPHE 2006b) and Regulation No. 37 Classifications and Numeric Standards for Lower Colorado River Basin (CDPHE 2005a) were reviewed for information relating to drainages impacted by the proposed action. Table 1 shows the affected watersheds and associated water quality stream segments to be directly impacted by the proposed actions.

The 2006 303(d) list of segments needing development of TMDLs (CDPHE 2006c) includes two segments within the White River - segment 9b, specifically the Flag Creek portion (for impairment from selenium with a low priority for TMDL development) and segment 22, specifically West Evacuation Wash, and Douglas Creek (sediment impairments with a low priority for TMDL development). The 2006 303(d) list also includes six stream segments within the Lower Colorado River Basin – segment 3, all portions (selenium impairments with a medium priority for TMDL development); segment 4a, all portions (selenium impairments with a medium priority for TMDL development); segment 13a, Salt Creek (sediment impaired with a

low priority for TMDL development); 13b, specifically all tributaries on the north side of the Colorado River (selenium impairments with a medium priority for TMDL development); 13c, all portions (selenium impairments with a low priority for TMDL development); 14b, specifically the Dry Fork (selenium impairments with a low priority for TMDL development).

Regulation 94 is the State’s list of water bodies identified for monitoring and evaluation (CDPHE 2006d), to assess water quality and determine if a need for TMDLs exists. The list includes two White River segments that are potentially impaired – 9 (Flag Creek-pH) and 22 (Soldier Creek- sediment). The 2006 monitoring and evaluation list also includes three segments from the Lower Colorado River Basin- segment 1(all portions-sediment); segment 2 (all portions-sediment), and segment 4a (Mamm Creek and S. Canyon Creek- Fe (Trec)). None of the streams to be impacted by the proposed actions were identified on the states 303(d) or M & E lists. However, the White River RMP/ROD (BLM, 1997) has identified the main stem of Yellow Creek as a perennial stream NOT meeting water quality standards for suspended sediment and salinity.

Table 1:

Watershed	Stream segment	Drainage Basin	Acres w/in 30 radius	Use Protected	Beneficial Uses
Clear Creek	14a	Colorado River Basin	18.98	-	Aq Life Cold 1 Recreation 1b Water Supply Agriculture
Yellow Creek	13b	White River Basin	49.6	UP	Aq Life Warm 2 Recreation 2 Agriculture
Ryan Gulch	16		9.17		
Black Sulphur Creek	20		10.19	-	Aq Life Cold 1 Recreation 2 Agriculture

Source: CDPHE, 2005a.

The State has classified stream segments 13b, 16, and 20 as "Use Protected". The antidegradation review requirements in the Antidegradation Rule are not applicable to waters designated use-protected. For those waters, only the protection specified in each reach will apply. An intermediate level of water quality protection applies to waters that have not been designated outstanding waters or use-protected waters (such as stream segment 14a of the Lower Colorado River Basin). For these waters, no degradation is allowed unless deemed appropriate following an antidegradation review (CDPHE 2005a).

Stream segment 13b of the White River Basin is defined as the mainstem of Piceance Creek from the Emily Oldland diversion dam to the confluence with the White River (CDPHE 2005a). Stream segment 14a of the Lower Colorado River Basin is defined as the mainstem of Roan Creek including all wetlands, tributaries, lakes, and reservoirs, from its source to a point immediately above the confluence with Clear Creek (CDPHE 2005a). Stream segment 16 of the White River Basin is defined as all tributaries to Piceance Creek, including all wetlands, lakes and reservoirs, from the source to the confluence with the White River, except for the specific listings in segments 17, 19, and 20 (CDPHE 2005a). Stream segment 20 of the White River

Basin is defined as the mainstems of Black Sulphur and Hunter Creeks from their sources to their confluences with Piceance Creek (CDPHE 2005a).

Ground Water: Surface geologic formation at the proposed location is Tertiary in age (Uinta Formation) and consists primarily of interbedded sandstone and siltstone. The Uinta Formation is the principle geologic formation of the Upper Piceance Basin Aquifer. One perennial BLM spring (184-04) has been identified approximately ¼ mile to the west of proposed location 23-3-598. The BLM has obtained water rights on BLM spring 184-04 and.

A review of the US Geological Survey Ground Water Atlas of the United States (Topper et al., 2003) was done to assess ground water resources at the location of the proposed action. The proposed action is located in the Piceance Creek structural basin. Primary hydrogeologic units within the Piceance Basin are listed in table 2.

Table 2:

Summary of Hydrogeologic Units						
Hydrogeologic Unit	Stratigraphic Unit	Physical Description	Thickness	Hydraulic Conductivity	Yield	TDS
			(ft)	(ft/day)	(gpm)	mg/L
Upper Piceance Basin aquifer	Uinta Formation	sandstone, fractured siltstone, fractured marlstone	0 – 1,400	<0.2 to >1.6	1- 900	500-1,000
Mahogany confining unit	Green River Formation	dolomitic marlstone and shale	500-1,800	<0.01	<25	NL
Lower Piceance Basin aquifer	Green River Formation	shale, fine-grained sandstone, fractured marlstone	0 – 1,870	<0.1 to >1.2	1-1,000	1,000-10,000
Basal confining unit	Green River Formation, Wasatch Formation	claystone, siltstone, clay rich oil shale, marlstone, channel sandstone	0-6,800	<0.01	<10-100	NL
Fort Union aquifer	Fort Union Formation	Coarse-grained sandstone	Very thin	NL	NL	NL
Mesaverde aquifer	Mesaverde Group	sandstone interbedded shale and coal	Averages 3,000	0.0001-1.0	NL	NL
Mancos confining unit	Mancos Shale	mostly shale but Frontier Sandstone may be local aquifer	>7,000	NL	NL	NL

Abbreviations: ft = feet, approx = approximate, avg = average, gpm = gallons per minute, mg = milligrams, L = liters, and NL = not listed.

Table information from Topper et al. (2003).

The Piceance Creek drainage basins upper and lower aquifers are separated by the semi-confining Mahogany Zone. Information presented in Topper et al. (2003) indicates the following approximate depths to potentiometric surfaces (elevation at which water level would have stood in tightly cased wells, 1985) within hydrogeologic units: upper Piceance basin aquifer 550 feet, lower Piceance basin aquifer 350 feet, and Mesaverde aquifer 250 feet (based on a surface

elevation of 7,250 feet). Water well data from the Colorado Division of Water Resources (Topper et al., 2003) indicated that in central Rio Blanco County water wells are uncommon. Based on existing water well data near the project areas, total concentration of dissolved constituents in the upper and lower aquifers is generally lower than 1000 milligrams per liter.

Environmental Consequences of the Proposed Action: Surface Water: New surface disturbing activities associated with the proposed actions will increase soil exposure to erosional processes. New surface disturbance will destroy existing vegetation and increase compaction. Increased compaction combined with reduced vegetation will further decrease infiltration rates and elevate erosive potential due to runoff (overland flows) and raindrop impact during storm events. Improper road design and inadequate drainage relief structures will further contribute to soil erosion and increased sedimentation to surface waters.

Given the moderate to rapid runoff rates of the affected soils, leaks or spills of environmentally unfriendly substances are likely to be carried down gradient in local ground water (perched aquifers, alluvial aquifers...). Contaminants being transported by local ground water may discharge into surface waters of ephemeral tributaries and springs (184-04) during wet periods, be transported down gradient and potentially deteriorate surface water quality in lower portions of the watershed.

Ground Water: In the event of any leaks or spills, local ground water quality may be adversely impacted as runoff could carry contaminants down gradient to alluvial aquifers such as the Piceance Creek alluvium, BLM spring 184-04, and Sulphur Creek Well #9 (artesian well on private surface) which are situated hydrologically down gradient from the proposed actions. Potential for ground water contamination increases if fractures in confining units are formed. Hydraulic conductivity increases exponentially along fracture zones resulting in rapid transport of fluids/contaminants in these areas. The upper and lower Piceance Basin aquifers have differing water qualities, mixing will degrade water quality in the upper aquifer which is generally of better quality. Storage or surface disposal methods for produced water would also elevate potential for contaminating ground water of the Upper Piceance Basin Aquifer, Piceance Creek Alluvial Aquifer, and nearby perennial springs.

Construction of well pads and new access roads will likely alter natural drainage patterns which will also alter natural ground water recharge in the affected areas. Any alterations to natural groundwater recharge can result in reduced flows in springs and surface water flows in perennial systems.

Environmental Consequences of the No Action Alternative: None

Mitigation: The operator will be responsible for complying with all local, state, and federal water quality regulations (such as but not limited to Phase I Storm Water Permit, Army Corps Section 404 permit coverage, and Industrial Wastewater/Produced Water Permits).

All surface disturbing activities will strictly adhere to “Gold Book” fourth edition surface operating standards for oil and gas exploration and development (copies of the “Gold Book” fourth edition can be obtained at the WRFO). The operator will consult with the State of

Colorado Water Quality Control Division regarding Stormwater Discharge Permits prior to commencing construction activities. Construction activities that disturb 5 acres or greater require a Phase I Stormwater Discharge Permit while construction activities that disturb between 1 and 5 acres may require a Phase II Stormwater Discharge Permit. Written documentation to the BLM Authorized Officer is required within 30 days of the APD approval date to indicate that appropriate permits have been obtained or are not required by the permitting agency. Written documentation may be a copy of the Stormwater Discharge Permit, a Certification Number, or an official letter response from the State Water Quality Control Division stating that a permit is not required for the activities in question. As a condition of the permit, a Stormwater Management Plan (SWMP) would be developed showing how Best Management Practices (BMPs) are to be used to control runoff and sediment transport. The applicant is required to have a copy of the SWMP on file with the Meeker Field Office and to implement the BMPs in that plan as on-site conditions warrant. For further information contact Nate Dieterich, WRFO Hydrologist at 970-878-3831 or Nathan_Dieterich@blm.gov. Appropriate documents may be sent via electronic mail, faxed (970-878-3805), or mailed to Nate Dieterich at the above address.

The operator will consult with the US Army Corps of Engineers to obtain approval prior to discharging fill material into waters of the US in accordance with Section 404 of the Clean Water Act. Waters of the US are defined in 33 CFR Section 328.3. Written documentation to the BLM Authorized Officer is required within 45 days of the APD approval date to indicate that the US Army Corps of Engineers has been notified prior to construction or that 404 Permits have been obtained or are not required by the permitting agency. Written documentation may be a copy of the Pre-Construction Notification (PCN) Form or an official verification letter from the US Army Corps of Engineers to the operator regarding the activities in question. For further information contact Nate Dieterich, WRFO Hydrologist at 970-878-3831 or Nathan_Dieterich@blm.gov. Appropriate documents may be sent via electronic mail, faxed (970-878-3805), or mailed to Nate Dieterich at the above address.

Surface Water: To mitigate additional soil erosion at the well pad and potential increased sediment and salt loading to nearby surface waters, interim reclamation will be required once drilling is completed. To allow optimal opportunity for interim reclamation of well pads, all tanks and production facilities will be situated on the access road side of the well pad (unless otherwise approved by the BLM). Interim reclamation will consist of excess stockpiled soils associated with pad construction being pulled back over the portion of the well pad not being utilized for production facilities and access. Portions of the well pad undergoing interim reclamation will be returned to grade (as close as possible), promptly re-seeded, and biodegradable fabrics will be utilized on slopes exceeding 5% (e.g. fill slopes). If interim reclamation is not practical (e.g. completion of drilling operation will require an extended period time (multiple well pads)), stockpiled topsoil will be covered with biodegradable fabrics such as (but not limited to) jute netting and seeded with a BLM approved seed mixture (see vegetation section of this document).

Upon final abandonment of well pads, 100% of all disturbed surfaces (access roads and pad locations) will be restored to pre-construction contours, and revegetated with a BLM preferred seed mixture (see Vegetation section). Natural drainage patterns will be restored and stabilized with a combination of vegetative (seeding) and non-vegetative techniques (e.g. geotextile fabrics,

woody debris, straw waddles,...). All available woody debris will be pulled back over recontoured areas to help stabilize soils, trap moisture, and provide cover for vegetation. Monitoring and additional reclamation efforts will persist until reclamation is proven successful (as determined by the BLM).

The White River Record of Decision and Approved Resource Management Plan (July, 1997) includes a list of standard Conditions of Approval to be applied to All Surface Disturbing Activities (COAs 1-12) and to Road Construction and Maintenance (COAs 13-62). **The applicant is required to be familiar with those standard COAs and to strictly abide by them unless otherwise instructed by the BLM.**

Ground Water: Shallow aquifers shall be protected from hydrofracturing and the production of oil and gas by installation and cementing of surface and intermediate casing. Any groundwater produced from the Fort Union or Mesaverde Formations will be hauled off and disposed of due to poor water quality and therefore preventing adverse impacts to valuable surface and ground water resources. Environmentally unfriendly substances (e.g. diesel) must not be allowed to contact soils. The use of spill-guards (or equivalent spill prevention equipment) under and around pumping equipment and frac-tanks will be used to intercept such contaminants prior to infiltrating soils and contaminating ground water. Furthermore, all pits shall be lined and all wastes associated with construction and drilling (including produced water) will be properly treated and disposed of. The operator will be required to monitor BLM spring 184-04 for water quality and flow rates starting from the first day of drilling until successful interim reclamation (as determined by the BLM) is completed. All access roads and well pads will be designed to “Gold Book” standards (as outlined above) to maintain natural surface water drainage and ground water recharge patterns.

Finding on the Public Land Health Standard for water quality: All of the affected stream segments in the White River and Lower Colorado River Basins currently meet water quality standards set by the state. Many of the upper tributaries which are ephemeral and flow in direct response to storm events do not meet the standards during periods of flow. With implementation of all suggested mitigation measures, water quality in the affected stream segments should continue to meet standards.

WETLANDS AND RIPARIAN ZONES (includes a finding on Standard 2)

Affected Environment: The area adjacent to the proposed project area does not support riparian or wetland communities. Furthermore, riparian or wetland communities will not be directly involved or potentially affected by the proposed action.

Environmental Consequences of the Proposed Action: The proposed action would have no conceivable influence on riparian or wetland communities.

Environmental Consequences of the No Action Alternative: The no-action alternative would not have any conceivable influence on riparian or wetland communities.

Mitigation: None

Finding on the Public Land Health Standard for riparian systems: This project would have no conceivable potential for influencing riparian attributes addressed in the Standards.

CRITICAL ELEMENTS NOT PRESENT OR NOT AFFECTED:

No flood plains, prime and unique farmlands, Wilderness, or Wild and Scenic Rivers exist within the area affected by the proposed action. There are also no Native American religious or environmental justice concerns associated with the proposed action.

NON-CRITICAL ELEMENTS

The following elements **must** be addressed due to the involvement of Standards for Public Land Health:

SOILS (includes a finding on Standard 1)

Affected Environment: The following data is a product of an order III soil survey conducted by the Natural Resources Conservation Service (NRCS) in Rio Blanco County, CO. Table 3 highlights important soil characteristics. A complete summary of this information can be found at the White River Field Office.

Table 3:

Soil Number	Soil Name	Slope	Acres w/in 30 m	Ecological site	Salinity	Run Off	Erosion Potential	Bedrock
6	Barcus channery loamy sand	2-8%	6.7	Foothills Swale	<2	Slow	Moderate	>60
36	Glendive fine sandy loam	-	7.32	Foothills Swale	2-4	Slow	Slight	>60
52	Miracle fine sandy loam	3-25%	1.09	Mountain Loam	<2	Medium	Slight to very high	20-40
55	Nihill channery sandy loam	5-50%	12.44	Salt desert Breaks	<2	Medium	Moderate to very high	>60
56	North-water loam	5-50%	5.45	Aspen Woodlands	<2	Medium	Moderate to very high	40-60
70	Redcreek-Rentsac complex	5-30%	9.1	PJ woodlands/PJ woodlands	<2	Very high	Moderate to high	10-20
73	Rentsac channery loam	5-50%	8.44	Pinyon-Juniper woodlands	<2	Rapid	Moderate to very high	10-20
75	Rentsac-Piceance complex	2-30%	12.95	PJ woodland / Rolling Loam	<2	Medium	Moderate to high	10-20

Soil Number	Soil Name	Slope	Acres w/in 30 m	Ecological site	Salinity	Run Off	Erosion Potential	Bedrock
104	Yamac Loam	2-15%	24.38	Rolling Loam	<2	Medium	Slight to moderate	>60

Approximately 84 percent of the total surface disturbance will occur on soils with moderate to rapid run off rates. The erosive potential of soils with moderate to rapid run off rates varies from slight to very high. In areas with substantial relief, rapid run off will likely result in increased erosive potential. Soil texture, slope aspect, vegetation type and density will also influence erosive potential of soils within the project area.

Controlled Surface Use – 1 “fragile soils” (CSU-1 “fragile soils”) have been mapped along significant portions of the proposed well pad locations and associated access roads. Generally, all surface disturbing activities occurring on CSU-1 soils would require and engineered construction/reclamation plan to be submitted and approved by the Area Manager prior to construction. However, after observation of a topographic map and photos of the proposed locations, it was found that no surface disturbing activities will occur on slopes greater than 35 percent. Thus, CSU stipulations will not apply.

Environmental Consequences of the Proposed Action: Clearing and grading of well pads and access roads will remove protective vegetative cover from the affected soils accelerating the erosion process. Grading, trenching, and backfilling activities could cause mixing of the soil horizons and could result in reduced soil fertility reducing revegetation potential. Water erosion of soils associated with construction activities will likely result in a net loss of valuable topsoil by sheet, rill, and gully erosion. Eroded topsoil and subsoil may increase sedimentation to surface waters down gradient disturbed areas. Increased sedimentation could adversely affect water quality and aquatic life.

Any leaks or spills of environmentally unfriendly substances (e.g. diesel fuel) could compromise the productivity of affected soils. Decreased soil productivity will hinder reclamation efforts and leave soils further exposed to erosional processes.

Environmental Consequences of the No Action Alternative: None

Mitigation: The operator will be responsible for segregating topsoil material and backfilling of topsoil in its respective original position (last out, first in) to assist in the reestablishment of soil health and productivity.

Erosion and sediment control measures will be installed on all slopes exceeding five percent to mitigate soil loss. Erosion and sediment control measures will be maintained until stream banks and adjacent upland areas are stabilized.

All disturbed surfaces will be restored to natural contours and revegetated with the suggested seed mixture outlined in the Vegetation section of this EA. Interim reclamation will follow the mitigation outlined in the Water Quality portion of this document.

Finding on the Public Land Health Standard for upland soils: At the present time, soils in the vicinity of the proposed action meet soil health standards and exhibit infiltration and permeability rates that are appropriate to soil type, landform, climate, and geologic processes. With all suggested mitigation, implementation of the proposed actions should not change this status.

VEGETATION (includes a finding on Standard 3)

Affected Environment: Locations 14-16-198 and 23-17-198 are located in Wyoming big sagebrush with a perennial grass understory. Location 22-20-198 is within a young/mid age Pinyon –juniper woodland. Location 12-10-298 is located in mature basin big sagebrush. Location 12-4-398 is located in previously burned and revegetated basin big sagebrush. Location 23-3-598 is located in mixed mountain shrub vegetation dominated by Utah serviceberry and mountain big sagebrush with a perennial grass/forb understory.

Environmental Consequences of the Proposed Action: Two impacts will/could occur as a result of access road, location and pipeline construction:

- 1) The **38.14** acres of road, pad and pipeline construction will accelerate the rate of plant community fragmentation which is presently occurring in this area of Piceance Basin.
- 2) In terms of plant community composition, structure and function, the principal negative impact over the long term would occur if cheatgrass and/or noxious weeds are allowed to establish and proliferate on the disturbed areas resulting from pad, pipeline and access road construction.

Environmental Consequences of the No Action Alternative: There will be no change from the present situation.

Mitigation: Promptly revegetate all disturbed areas with Native Seed mix #3 (Seed mix # 5 for 23-3-598). Revegetation will commence immediately after construction and will not be delayed until the following fall. *Debris will not be scattered on the pipeline until after seeding operations are completed.* Seed mixture rates are Pure Live Seed (PLS) pounds per acre. Drill seeding is the preferred method of application

Native Seed mix #3		
Western wheatgrass (Rosanna)	2	Gravelly 10"-14", Pinyon/Juniper Woodland, Stony Foothills, 147 (Mountain Mahogany)
Bluebunch wheatgrass (Whitmar)	2	
Needle and thread	1	
Indian ricegrass (Rimrock)	2	
Fourwing saltbush (Wytana)	1	
Utah sweetvetch	1	

Native Seed mix #6		
Bluebunch wheatgrass (Secar)	2	Alpine Meadow, Alpine Slopes, Aspen Woodlands, Brushy
Slender wheatgrass (Pryor)	2	Loam, Deep Clay Loam, Douglas-fir Woodland, Loamy
Big bluegrass (Sherman)	1	Park, Mountain Loam, Mountain Meadows, Mountain

Native Seed mix #6		
Canby bluegrass (Canbar)	1	Swale, Shallow Subalpine, Spruce-fir Woodland, Subalpine
Mountain brome (Bromar)	2	Loam

If construction/development occurs between April 15 and November 15, the operator will be required to water or surface access roads to reduce airborne dust and damage to roadside vegetation communities.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial): Vegetation in the project area currently meets the Standard on a watershed and landscape basis and is expected to continue to meet the Standard in the future following implementation of the proposed action and mitigation.

WILDLIFE, AQUATIC (includes a finding on Standard 3)

Affected Environment: The proposed locations are separated from warm-water aquatic communities supported by the lower White River by approximately 8 miles of ephemeral channel.

Environmental Consequences of the Proposed Action: Separated by approximately 8 miles of ephemeral channel, there is no reasonable likelihood that aquatic habitats associated with downstream perennial systems would be influenced by proposed well and road construction.

Environmental Consequences of the No Action Alternative: There would be no immediate action authorized that would have potential to affect wetland or riparian communities.

Mitigation: None

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Terrestrial): Because there are no aquatic habitats or animals potentially influenced by the proposed or no-action alternatives, a land health standard finding is not applicable. The proposed and no action alternatives would have no measurable influence on aquatic habitats associated with downstream systems.

WILDLIFE, TERRESTRIAL (includes a finding on Standard 3)

Affected Environment: Wildlife species occurrences are typically dependent on habitat availability, relative carrying capacities, and degree of existing habitat disturbance. Dominant vegetation at the proposed location for well 23-3-598 is mountain big sagebrush (*Artemisia tridentata* var. *pauciflora*), with serviceberry (*Amelanchier* spp.), mountain mahogany (*Cercocarpus montanus*), bitterbrush (*Purshia tridentata*), and black sagebrush (*Artemisia nova*) scattered throughout. Dominant vegetation at location 14-16-198 is Wyoming big sagebrush, while dominant vegetation at location 22-20-198 is Pinion-juniper woodlands. Based on data from the CDOW, the proposed location for well 23-3-598 is classified as big game summer

range. Locations 14-16-198 and 22-20-198 are classified as big game critical winter habitat. Because of their limited extent, deer and elk summer range has been designated as critical habitat in the White River Field Office area (USDI-BLM 1994).

Upland game birds that occur include mourning dove, blue grouse, and Greater sage-grouse. The upland game bird species of most concern is the Greater sage-grouse, which is classified as a Species of Special Concern by the BLM. Sage grouse are discussed in greater detail in the section on Special Status Wildlife Species. Area adjacent to the access road and the proposed location for the well pad include suitable nesting habitat and was inventoried for raptors on 18 July 2006 by a third-party contractor. No raptor nests were located. Proposed locations for well pads and access roads for locations 12-4-398, 12-10-298, 14-16-198, 23-17-198 and 23-3-598 do not include or are not associated with suitable raptor nesting habitat.

Environmental Consequences of the Proposed Action: The principle potential wildlife impacts likely to be associated with the proposed action may include: (1) direct loss of wildlife habitat, (2) decreased use of wildlife habitats through displacement of some wildlife species, (3) decrease in reproductive success and nutritional condition from increased energy expenditure due to physical responses to disturbance, (4) increase in the potential for collisions between big game, other wildlife, and motor vehicles, and (5) increase in the potential for poaching and harassment of wildlife.

Construction and drilling activities may potentially increase direct impacts (including legal hunting, poaching, destruction of nests, and collisions with vehicles) of waterfowl and upland game birds, as well as indirectly add to displacement of these species in the area. In addition to human related direct mortality, coyote predation could also be increased. Coyotes readily use roadways (particularly traveled/compacted roadways) as travel corridors. The construction of new access roads could increase the potential for coyote/prey interactions.

Surface disturbances associated with the proposed action would result in the direct loss of elk and mule deer summer habitat. In addition, human activity associated with drilling activities and increased traffic could result in increased mortality from vehicle collisions and temporarily displace elk and mule deer into areas of decreased disturbance. Both species commonly avoid areas of human activity and would potentially disperse up to 300 feet from all activity areas (Hollowed, E., personal communication, May 2004). Road density at location 23-3-598 equals approximately 3.47 miles or road per square mile and exceeds road density objectives established in the White River ROD/RMP for big game ranges of 3 miles or road per square mile (White River ROD/RMP, page 2-29).

Because of potential cumulative local and regional impacts to big game dispersal and seasonal movement patterns as a result of increased oil and gas activity in areas identified as critical big game critical habitat, as directed by the WRFO RMP (1997) the stipulation developed specifically for big game critical habitat will apply. As such, no development activity is allowed from December 1 through April 30 for location 23-3-598. Development is allowed from May 1 through November 30. This stipulation applies to all surface disturbing activities.

Environmental Consequences of the No Action Alternative: There would be no conceivable influence on wildlife or associated habitats under the no action alternative.

Mitigation: Because of potential cumulative local and regional impacts to big game dispersal and seasonal movement patterns as a result of increased oil and gas activity in areas identified as critical big game habitat, as directed by the WRFO RMP (1997) the stipulation developed specifically for big game critical summer habitat will apply. As such, no development activity is allowed from **December 1** through **April 30** for location **23-3-598**. Development is allowed from May 1 through November 30. This stipulation applies to all surface disturbing activities.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Aquatic): The project area presently meets the public land health standards for terrestrial animal communities. As conditioned, the proposed action would have negligible long term influence on the utility or function of big game, raptor, or non-game habitats surrounding this site. In an overall context, lands affected by the no-action or proposed action would continue to meet the land health standard for terrestrial animals.

OTHER NON-CRITICAL ELEMENTS: For the following elements, only those brought forward for analysis will be addressed further.

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Access and Transportation			X
Cadastral Survey	X		
Fire Management			X
Forest Management			X
Geology and Minerals			X
Hydrology/Water Rights			X
Law Enforcement		X	
Noise		X	
Paleontology			X
Rangeland Management			X
Realty Authorizations			X
Recreation			X
Socio-Economics		X	
Visual Resources			X
Wild Horses			X

ACCESS AND TRANSPORTATION

Affected Environment: On well location 14-16-198, motor vehicles are limited to existing routes year-round. On well locations 12-10-298, 23-17-198, 12-4-398, 22-20-198, Motor vehicles limited to existing routes from October 1 through May 15 while cross-country travel is permitted the remainder of the year. Locations 23-17-198, 14-16-198 and 22-20-198 extensive

road construction is needed where no open motor vehicle routes persist as this time. Location 12-10-298 is adjacent to existing Rio Blanco County road 24 and 23-17-198 is located adjacent to BLM road 1183. All roads, with the exception of RBC 24 are native surface.

Environmental Consequences of the Proposed Action: With an increase of vehicular traffic due to location construction and well drilling activities it is likely that utilized road surfaces will deteriorate.

Environmental Consequences of the No Action Alternative: None.

Mitigation: Road speed limits (with the exception of Rio Blanco County Road 24) will be 15 miles per hour to aid in dust abatement and improves overall traffic safety.

FIRE MANAGEMENT

Affected Environment: Well 22-20-198 involves approximately 2112 feet of new road construction/improvement that traverses through mature pinyon-juniper woodlands. The pad likewise is composed of sparse pinyon-juniper stringers extending out into the sagebrush flat where the location is planned.

The National Fire Plan calls for “firefighter and public safety” to be the highest priority for all fire management activities. In the pinyon, juniper, and brush types common on the White River Resource Area, roads and other man-made openings are commonly used as fuel breaks or barriers to control the spread of both wildland and prescribed fires. By reducing the activity fuels created from this proposal, future fire management efforts in this area should be safer for those involved and more effective.

Environmental Consequences of the Proposed Action: Due to the existing tree cover of pinyon and juniper, there will be a need for the operator to clear some of these trees. If not adequately treated, these trees will result in elevated hazardous fuels conditions and remain on-site for many years. These accumulations of dead material are very receptive to fire brands and spotting from wind driven fires and can greatly accelerate the rate of spread of the fire front. The road associated with this project may be used by the general public for a variety of uses, including access for fire wood gathering, hunting and other dispersed recreational activities. Increased public use of an area will nearly always result in an increased potential for man-caused wildland fires. If not treated the slash and woody debris will create an elevated hazardous dead fuel loading which could pose significant control problems in the event of a wildfire. Additionally there would be greater threat to the public, Williams’ personnel, and fire suppression personnel.

Environmental Consequences of the No Action Alternative: The increased fuel build up along a public access route would not occur under the no-action alternative.

Mitigation: The operator has two options for treatment of slash from this project. A hydro-ax or other mulching type machine could be used to remove the trees. The machines are

capable of shredding trees up to 12" in diameter and 15' tall as well as mowing brush like a conventional brush beater. It generally leaves small branches and pieces of wood from pencil size up to bowling ball size. The mulch is evenly scattered across the surface and the tires or tracks distribute the weight of the equipment. This would effectively breakdown the woody fuel and scatter the debris thereby eliminating any hazardous fuel load adjacent to the new road and well pad. The other option would be to cut trees and have them removed for firewood, posts, or other products. The branches and tops should be lopped and scattered to a depth of 24 inches or less. Material retained for reclamation on the pipeline and pad should be evenly distributed, so as to not create jackpots, and the material should not exceed 5 tons /acre in any given location.

FOREST MANAGEMENT

Affected Environment: The 22-20-198 well pad is located in a sage brush park and the access road to this well is through a middle aged pinyon/juniper woodland. The access road for the 23-17-198 well follows an existing two-track road associated with the 84 mesa pipeline. This two-track runs through a middle-aged pinyon/juniper woodland. Woodlands in this resource area are locally valuable as a source for firewood and fence posts. These stands are classified as non-commercial and are not considered within the allowable harvest limit.

Environmental Consequences of the Proposed Action: The access road to the 22-20-198 well will require the removal of pinyon and juniper. The access road to the 23-17-198 well will require avoidance of the water pipeline and removal of woodland resources. Following reclamation these sites are expected to be colonized by pinyon/juniper with trees reaching sapling size in approximately 30 years and mature status in 200-300 years/

Environmental Consequences of the No Action Alternative: There would be no impacts.

Mitigation: The permit holder is to notify the White River Area Forester if trees are to be removed along the access road to the 23-17-198. Information requested is the width and length of the disturbance in the P/J type.

All trees removed in the process of construction shall be purchased from the Bureau of Land Management. The trees shall be cut with a maximum stump height of six inches and disposed of by chipping and scattered.

GEOLOGY AND MINERALS

Affected Environment: The surface geologic formation of all well locations except 12-10-298, which is alluvium, is Uinta. Williams' targeted zone is located in the lower Mesaverde/upper Mancos. During drilling potential water, oil shale, sodium, and gas zones will be encountered from surface to the targeted zone. Fresh water aquifers that will be encountered during drilling are the Perched in the Uinta, the A-groove, B-groove and the Dissolution Surface in the Green River formation. This aquifer zones and portions of the Wasatch are known for difficulties in drilling and cementing.

William's wells # 23-17-198 and 14-16-198 are located in Natural Soda's Federal sodium lease COC-037474 and Well #22-20-198 is located in Natural Soda's Federal sodium lease COC-0119985. These three are approximately 3 miles west and north of Natural Soda's solution mining well field and water monitoring wells. Well 12-10-298, is in the area identified in the ROD/RMP as available for multi mineral leasing. Well 12-4-398 is in an area identified as available for both sodium and oil shale leasing and well 23-3-598 is in an area identified as available for oil shale leasing.

According to the approved mine plan Natural Soda is required by the EPA, BLM, and Colorado Department of Natural Resources Division of Minerals and Geology to monitor the water quality and hydrostatic head of each of these aquifers.

Environmental Consequences of the Proposed Action: Drilling and completion of this well may adversely affect the aquifers and Natural Soda's monitoring wells if there is loss of circulation or problems cementing the casing. However, the approved cementing and completion procedure of the proposed action isolates the formations if done correctly, will prevent the migration of gas, water, and oil between formations. Development of these wells will deplete the hydrocarbon resources in the targeted formation.

Environmental Consequences of the No Action Alternative: The natural gas resources in the targeted zone would not be recovered at this time.

Mitigation: The sodium lease holders shall be notified by the operator of their plans to drill wells 23-17-198, 14-16-198 and 22-20-198 prior to the commencement of surface disturbing activities.

To prove ownership of any aquifer contamination or drilling influence, a fluorescent dye other than Rhodamin WT, should be added to all drilling fluids used through the Green River formation while drilling wells 23-17-198, 14-16-198 and 22-20-198.

For wells 23-17-198, 14-16-198 and 22-20-198 drilling fluid should be sampled and analyzed for pH and conductivity every 100 feet from surface to 100 feet below the Dissolution surface. Williams should document fluid losses during drilling operations through the Green River Formation. The analysis of the fluid samples and fluid loss documentation will be supplied to the BLM Meeker office within 30 days of drilling.

HYDROLOGY AND WATER RIGHTS

Affected Environment: Watersheds likely to be directly impacted by the proposed actions are Yellow Creek, Black Sulphur Creek, Ryan Gulch, and Clear Creek. Yellow Creek is a perennial tributary to the White River. Black Sulphur Creek is a perennial tributary to Piceance Creek. Ryan Gulch is an ephemeral tributary to Piceance Creek. Piceance Creek is a perennial tributary to the White River which is a tributary to the Green River in Utah (tributary to the

Colorado River). Clear Creek is a perennial tributary to Roan Creek which is a perennial tributary to the Colorado River.

Stream flows in Piceance Creek and its tributaries generally peak in mid spring as a result of high elevation snowmelt and periodically during late summer and early fall in response to high intensity precipitation events. Ephemeral drainages flow only in direct response to snowmelt and intense summer and early autumn storms.

The stream banks of Piceance Creek are generally composed of sand, silt, and clay particles that are less than about one-tenth of an inch in diameter. The bank materials erode easily when stream discharge increases during peak flow conditions. Bank erosion is probably most prominent during the spring snowmelt when high flows persist for several days. The bank material absorbs a large amount of water, becomes soft and easily removable, and sloughs into the stream in large clumps. The stream bed of Piceance Creek is composed of silt, sand, gravel, and occasional cobbles, with pockets of fine material where the velocity of the stream generally is slow. Coarse streambed materials normally move only under peak flow conditions (Norman, 1987).

One perennial BLM spring (184-04) has been identified approximately ¼ mile to the west of proposed location 23-3-598. The BLM has obtained water rights on BLM spring 184-04 and Table 4 lists springs which were identified in the WRFO Water Atlas.

Table 4:

Name	Quarter	Section	Twp	Range	Map Code	Water Right	SC	pH	Q (gpm)	Date	Comments
Tobacco Plug Spring	NWSW	3	5S	98W	184-04	82CW319	1073	7.8	0.96	9/24/82	Perennial

In addition, an artesian well (Sulphur Creek Well #9) has been mapped in the Ryan Gulch catchment area on private surface (T2S, R98W, Section 10 SWNW) approximately 350 meters below Williams’ proposed location 12-10-298. A search of water rights at the CDWR web page (<http://cdss.state.co.us/DNN/WaterRights/tabid/76/Default.aspx>) revealed that Sulphur Creek Well #9 is listed in water rights case number W1258-72 with an appropriation date of 12/31/1965. Ryan Gulch is listed as the source of water for the well in the amount of 0.002 cfs. Sulphur Creek Well #9 is situated up gradient the confluence of the ephemeral tributary impacted by location 12-10-298 and construction activities are not anticipated to adversely impact the well.

Environmental Consequences of the Proposed Action: Improper drainage from well pads and access roads will elevate sediment production from disturbed areas. Increased sediment loads to local surface water drainages will result in a sediment rich system. Sediment rich systems are characterized by deposition and high width to depth ratios (W/D ratio) (wide shallow channels). As the W/D ratio increases, the hydraulic stress against the banks also increases and bank erosion is accelerated. Increases in the sediment supply to the channel develop from bank erosion, reducing the systems capability to transport sediment. As a result, deposition occurs, further accelerating bank erosion, and the cycle continues (Rosgen, 1996).

Construction activities may also disrupt natural surface and ground water flow patterns. As a result of altered flow patterns, recharge to surface and ground water resources such as BLM spring 184-04, Sulphur Creek Well #9 (private), local alluvial aquifers, and perennial streams may be reduced. Drilling activities near spring sources and artesian wells (Sulphur Creek Well #9) may emit ground vibrations increasing particle packing, reduce effective porosity in water producing units and minimizing flow rates in springs and wells. Reductions in flows to the affected springs and wells will adversely impact individuals who own water rights for those sources.

Environmental Consequences of the No Action Alternative: None

Mitigation: Refer to mitigation in the Water Quality portion of this document.

PALEONTOLOGY

Affected Environment: The proposed 12-4-398, 12-10-298, 14-16-198, 22-20-198, 23-17-198, and 23-3-598 well pads and access roads: are located in an area generally mapped as the Uinta Formation which the BLM, WRFO has classified as a Condition I formation meaning it is known to produce scientifically important fossil resources.

Environmental Consequences of the Proposed Action: The proposed 12-4-398, 12-10-298, 14-16-198, 22-20-198, 23-17-198, and 23-3-598 well locations and access roads: If it should become necessary, at any time, to excavate into any of the underlying rock formation to construct the access road, level the well pad location or excavate the reserve/bloolie pit there is a potential to impact scientifically important fossil resources.

Environmental Consequences of the No Action Alternative: There would be no new impacts to Fossil Resources under the No Action Alternative.

Mitigation: The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing paleontological sites, or for collecting fossils. If fossil materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear to be of noteworthy scientific interest
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not feasible)

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

An inventory of all exposed portions of rock outcrop within the project impact areas shall be inventoried by an approved paleontologist with a report detailing the results of the inventory and any recommended mitigation shall be submitted to the BLM prior to the initiation of construction of any of the proposed well pads or access roads.

If, at any time, it becomes necessary to excavate into any of the underlying rock in order to construct the access roads, level the well pads or excavate the reserve/bloolie pits a paleontological monitor shall be present for all such excavations.

RANGELAND MANAGEMENT

Affected Environment: Location and access for 12-4-398 occurs in the bottom of Yankee Gulch within the Black Sulphur (06029) allotment. Location and access for 144-16-198, 23-17-198 and 22-20-198 occurs on 84 Mesa within the Yellow Creek (06030) allotment. Location and access for 12-10-298 is within the Ryan pasture of the Square S (06027) allotment. Location and access for 23-3-598 is within the summer pasture of the Pat Johnson use area of the Piceance Mountain (06023) allotment.

Environmental Consequences of the Proposed Action: The proposed action, 28 acres of disturbance, will result in a direct loss of forage to the four livestock operations on the affected allotments until/if the locations, access roads and pipeline routes are successfully revegetated. The loss will be as follows:

Black Sulphur	-	2 AUMs
Square S	-	1 AUMs
Yellow Creek	-	6 AUMs
Piceance Mountain	-	3 AUMs

Dust damage to vegetation, will at least double the forage loss. This proposed action could interfere with proper functioning of the range improvements near the proposal including the 84 Mesa pipeline, which is used by both cattle and wild horses. The fences and water sources in this area are necessary for control of cattle to achieve grazing objectives on affected grazing allotments and to keep cattle from straying into the wrong grazing use area. Damage to fences or gates left open interferes with control of cattle and ultimately with proper utilization of the rangeland resource. Damage to watering facilities will affect water availability and distribution of livestock, resulting in increased grazing pressure on areas that have water available for livestock.

Environmental Consequences of the No Action Alternative: There will be no change from the present situation.

*Mitigation:*1) Prior to construction of the access road for locations 22-20-198, 23-17-198 and 14-16-198, Williams will schedule a field meeting with WRFO Rangeland Management Specialist Mark Hafkenschiel to locate the existing waterline so that it will not be damaged/impacted by Williams construction activities. The access road and pipeline for the

aforementioned wells will need to be at an offset of a minimum of 10 feet from the 84 Mesa waterline.

2) For 12-4-398, because this location will use the same access as is being used for the existing 31-8-398 and dust abatement has to date been *nonexistent*, Williams will reconstruct the existing road so that it is above grade, crown and ditched, and surface it with gravel or magnesium chloride to correct the current *uncontrolled* dust and drainage situation.

3) All fences crossed by an access road to a well location, or pipeline will have a cattleguard installed and maintained to BLM specifications for the lifetime of the project. All cattleguard/fence work will take place prior to well location, pipeline or facility construction.

4) Any and all fences intersected by an access road or pipeline will be braced to BLM specifications prior to cutting. A temporary wire gate will be constructed. This work will take place prior to access road/ pipeline ROW construction. A copy of the applicable BLM fence specifications will be included as part of the conditions of approval.

5) All roadside and well location cut and fill slopes will be revegetated immediately after construction with the seed mixture(s) specified in the conditions of approval. Such revegetation will be either temporary or permanent.

6) Revegetation operations will start immediately following the completion of recontouring/dirt work operations.

7) Reserve pit fencing will comply with BLM specifications as described in the BLM Gold Book (Fourth Edition, 2005). Reserve pit fence specifications will be included as part of the conditions of approval.

8) All access roads and surface disturbing activities will conform to standards outlined in the BLM Gold Book, *Oil and Gas Surface Operating Standards for Oil and Gas Development* (Sept. 2005).

REALTY AUTHORIZATIONS

Affected Environment: Bargath has applied for pipeline hook-ups for the five following wells: RGU 23-17-198, RGU 22-20-198, RGU 14-16-198, RGU 12-10-298D, and RGU 12-4-308. An application for RGU 23-3-598 has not been received to date.

Environmental Consequences of the Proposed Action: The proposed action will have five well hook-ups in the Ryan Gulch Gathering System. The pipelines will be laid along side the access roads into these wells. This action will be an amendment to Bargath's existing right-of-way, COC67991. The length and width of the individual pipelines is described below:

RGU 23-17-198:	length 8,264.6 feet, width 30 feet =	5.69 acres
RGU 22-20-198:	length 1,907 feet, width 30 feet =	1.31 acres

RGU 14-16-198: length 4,660.3 feet, width 30 feet =	3.21 acres
RGU 12-10-298D: length 714.5 feet, width 30 feet =	0.49 acres
RG 12-4-398: length 375.1 feet, width 30 feet =	0.26 acres

Total disturbed area = **10.96 acres**

Environmental Consequences of the No Action Alternative: Under the no action alternative the application would be denied and a different transportation method would have to be utilized.

Mitigation: 1. The Conditions of Approval for each APD for five of the six additional wells will be accepted and made a part of the right-of-way grant.

2. The Colorado-One-Call procedures will be implemented before any surface disturbing activities for the pipelines take place.

3. The pipelines for these five wells cannot be constructed until production for these wells has been proven.

RECREATION

Affected Environment: The proposed action occurs within the White River Extensive Recreation Management Area (ERMA). BLM custodially manages the ERMA to provide for unstructured recreation activities such as hunting, dispersed camping, hiking, horseback riding, wildlife viewing and off-highway vehicle use.

The project area has been delineated a Recreation Opportunity Spectrum (ROS) class of Semi-Primitive Motorized (SPM). SPM physical and social recreation setting is typically characterized by a natural appearing environment with few administrative controls, low interaction between users but evidence of other users may be present. SPM recreation experience is characterized by a high probability of isolation from the sights and sounds of humans that offers an environment that offers challenge and risk.

Environmental Consequences of the Proposed Action: The public will lose approximately 30 acres of dispersed recreation potential while wells are in operation. The public will most likely not recreate in the vicinity of these facilities and will be dispersed elsewhere. If action coincides with hunting seasons (September through November) it will most likely disrupt the experience sought by those recreationists.

With the introduction of new well pads and roads, an increase of traffic could be expected increasing the likelihood of human interactions, the sights and sounds associated with the human environment and a less naturally appearing environment.

Environmental Consequences of the No Action Alternative: No loss of dispersed recreation potential and no impact to hunting recreationists.

Mitigation: None.

VISUAL RESOURCES

Affected Environment: The proposed actions would be located in an area with a VRM III classification. The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

Environmental Consequences of the Proposed Action: The proposed actions are located in areas that would not be visible from the route (RBC 5) traveled by a casual observer. The well pad locations are located in pinyon/juniper and sagebrush with pinyon/juniper in the background. By painting all production facilities Juniper Green to blend with the surrounding vegetation and mimic the background vegetation, the level of change to the characteristic landscape would be less than moderate, and the objectives of the VRM III classification would be retained.

Environmental Consequences of the No Action Alternative: There would be no environmental impact.

Mitigation: All permanent (onsite for six [6] months or longer) structures, facilities and equipment placed onsite shall be painted Munsell Soil Color Chart Juniper Green or equivalent within six months of installation.

WILD HORSES

Affected Environment: The proposed action occurs within the White River Field Office's Piceance East Douglas Herd Management Area (HMA). BLM manages wild horses within this area. The proposed project is potentially adjacent to sections of fence used as boundary fencing. The proposed action has identified approximately 49.6 acres of new associated road and well pad construction/disturbance within the HMA.

Environmental Consequences of the Proposed Action: While working adjacent to or within the herd management area it is likely that work may take place adjacent to a section of fencing used as the boundary fence. If said fences are cut, gates left open, cattleguards damaged, or if fences are laid to the ground during the project for any period of time there is potential for horses to move outside the area where they are managed. It is believed that the horses may avoid the areas during construction activities but may return during any periods of non-activity.

Environmental Consequences of the No Action Alternative: None.

Mitigation: The operator will be required to maintain the fences they encounter during the project in working order (e.g., cut fence will be repaired, gates will be closed, cattleguards repaired, and fence laid down will be put up). Please note that during the month of September 2006 the BLM will be conducting wild horse gather operations in this area.

CUMULATIVE IMPACTS SUMMARY: This action is consistent with the scope of impacts addressed in the White River ROD/RMP. The cumulative impacts of oil and gas activities are addressed in the White River ROD/RMP for each resource value that would be affected by the proposed action.

REFERENCES CITED:

Colorado Department of Public Health and Environment (CDPHE) Air Pollution Control Division (APCD), 2005. "Colorado Air Quality Data Report – 2004," September 2005.

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Highland, Steven

2005 A Class III Cultural Resource Inventory for the Proposed Ryan Gulch 2-D seismic Project, Rio Blanco County, Colorado. TRC Mariah Associates Inc., Salt Lake City, Utah.

Norman, V. 1987. Water Quality in the Piceance Basin, in Taylor, J., ed., Oil Shale, Water Resources, and Valuable Minerals of the Piceance Basin, Colorado: The Challenge and Choices of Development. US Geol. Surv. Prof. Paper 1310.

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Topper, R., K.L. Spray, W. H. Bellis, J.L. Hamilton, and P.E. Barkmann. 2003. Ground Water Atlas of Colorado. Colo. Geol. Surv. Special Pub. 53.

Tweto, Ogden

1979 Geologic Map of Colorado. United States Geologic Survey, Department of the Interior, Reston, Virginia.

PERSONS / AGENCIES CONSULTED: None

INTERDISCIPLINARY REVIEW:

Name	Title	Area of Responsibility
Nate Dieterich	Hydrologist	Air Quality, Water Quality, Surface and Ground Hydrology and Water Rights, Soils
Tamara Meagley	Natural Resource Specialist	Areas of Critical Environmental Concern, Threatened and Endangered Plant Species
Mike Selle	Archeologist	Cultural Resources, Paleontological Resources
Mark Hafkenschiel	Rangeland Management Specialist	Invasive, Non-Native Species, Vegetation, Rangeland Management
Brett Smithers	Natural Resource Specialist- Wildlife Biologist	Migratory Birds, Threatened, Endangered and Sensitive Animal Species, Wildlife, Wetlands and Riparian Zones, Wildlife Terrestrial and Aquatic
Melissa J. Kindall	Range Technician	Wastes, Hazardous or Solid; Wild Horses
Chris Ham	Outdoor Recreation Planner	Wilderness, Access and Transportation, Recreation
Ken Holsinger	Natural Resource Specialist	Fire Management
Robert Fowler	Forester	Forest Management
Paul Daggett	Mining Engineer	Geology and Minerals
Penny Brown	Realty Specialist	Realty Authorizations
Keith Whitaker	Natural Resource Specialist	Visual Resources

Finding of No Significant Impact/Decision Record (FONSI/DR)

CO-110-2006-131-EA

FINDING OF NO SIGNIFICANT IMPACT (FONSI)/RATIONALE: The environmental assessment and analyzing the environmental effects of the proposed action have been reviewed. The approved mitigation measures (listed below) result in a Finding of No Significant Impact on the human environment. Therefore, an environmental impact statement is not necessary to further analyze the environmental effects of the proposed action.

DECISION/RATIONALE: It is my decision to approve the proposed action with the following mitigation measures.

MITIGATION MEASURES:

1. The operator will be responsible for complying with all local, state, and federal air quality regulations as well as providing documentation to the BLM that they have done so. To minimize production of fugitive particulate matter (fugitive dust) from associated access roads, vehicle speeds must not exceed 15 mph *or* dust plume must not be visible at appropriate designated speeds for road design. In addition, the application of a BLM approved dust suppressant (e.g. water or chemical stabilization methods) will be required during dry periods when dust plumes are visible at speeds less than or equal to 15 mph. Surfacing access roads with gravels will also help mitigate production of fugitive particulate matter. Land clearing, grading, earth moving or excavation activities will be suspended when wind speeds exceed a sustained velocity of 20 miles per hour in populated areas. Disturbed areas will be restored to original contours, and revegetated as outlined in the vegetation portion of this EA. Following seeding, woody debris cleared from the ROW will be pulled back over disturbed surfaces to increase effective ground cover and help retain soil moisture.

2. Construction equipment will be maintained in good operating condition to ensure that engines are running efficiently. Vehicles and construction equipment with emission controls will also be maintained to ensure effective pollutant emission reductions.

3. The proposed well pads and access roads: **a)** The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary)

- a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

- b)** Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

4. For the proposed 12-10-298 well pad, access road and pipeline: **a)** All personnel from drilling, construction and maintenance crews shall be required to remain on the well pad or the county road or access road to the well pad to prevent unauthorized collection of artifacts or damage to resources in the area.

- b)** The company shall be responsible for ensuring that sites in the vicinity are protected and are not vandalized or otherwise impacted as a result of operations for the life of the project.

5. The proposed 14-16-198, 22-20-198, and 23-17-198 well pads and access road: The holder shall be responsible for ensuring the contextual integrity of the sites involved against vandalism due to the increased access to the sites as a result of construction of the proposed access road to the proposed wells. A complete site map of each site shall be maintained and the site shall be monitored at least once per year to determine if there is an increase in unauthorized collection occurring at the site. The monitoring shall also identify if any unauthorized excavations have occurred at the site. If vandalism has/is occurred/occurring the holder shall be responsible for all mitigation deemed appropriate to recover remaining archaeological data as determined by the BLM.

6. All personnel from drilling, construction and maintenance crews shall be required to remain on the well pad or the county road or access road to the well pad to prevent unauthorized collection of artifacts or damage to resources in the area.

7. The company shall be responsible for ensuring that sites in the vicinity are protected and are not vandalized or otherwise impacted as a result of operations for the life of the project.

8. The proposed 14-16-198, 22-20-198, and 23-17-198 well pads and access road: The holder shall be responsible for ensuring the contextual integrity of the sites involved against vandalism due to the increased access to the sites as a result of construction of the proposed access road to the proposed wells. A complete site map of each site shall be maintained and the site shall be monitored at least once per year to determine if there is an increase in unauthorized collection

occurring at the site. The monitoring shall also identify if any unauthorized excavations have occurred at the site. If vandalism has/is occurred/occurring the holder shall be responsible for all mitigation deemed appropriate to recover remaining archaeological data as determined by the BLM.

9. The operator will be required to monitor the project area for a minimum of three years post disturbance and eradicate all noxious and invasive species which occur on site using materials and methods approved in advance by the Authorized Officer.

10. Promptly revegetate all disturbed areas with Native Seed mix #3 (Seed mix # 5 for 23-3-598). Revegetation will commence immediately after construction and will not be delayed until the following fall. *Debris will not be scattered on the pipeline until after seeding operations are completed.* Seed mixture rates are Pure Live Seed (PLS) pounds per acre. Drill seeding is the preferred method of application.

Native Seed mix #3		
Western wheatgrass (Rosanna)	2	Gravelly 10"-14", Pinyon/Juniper Woodland, Stony Foothills, 147 (Mountain Mahogany)
Bluebunch wheatgrass (Whitmar)	2	
Needle and thread	1	
Indian ricegrass (Rimrock)	2	
Fourwing saltbush (Wytana)	1	
Utah sweetvetch	1	

Native Seed mix #6		
Bluebunch wheatgrass (Secar)	2	Alpine Meadow, Alpine Slopes, Aspen Woodlands, Brushy
Slender wheatgrass (Pryor)	2	Loam, Deep Clay Loam, Douglas-fir Woodland, Loamy
Big bluegrass (Sherman)	1	Park, Mountain Loam, Mountain Meadows, Mountain
Canby bluegrass (Canbar)	1	Swale, Shallow Subalpine, Spruce-fir Woodland, Subalpine
Mountain brome (Bromar)	2	Loam

11. If construction/development occurs between April 15 and November 15, the operator will be required to water or surface access roads to reduce airborne dust and damage to roadside vegetation communities.

12. It will be the responsibility of the operator to prevent use by migratory birds of reserve pits that store or are expected to store fluids which may pose a risk to such birds (e.g., migratory waterfowl, shorebirds, wading birds and raptors) during completion and after completion activities have ceased. Methods may include netting, the use of bird-balls, or other alternative methods that effectively prevent use and that meet BLM approval. It will be the responsibility of the operator to notify the BLM via **Sundry Notice** of the method that will be used to prevent use two weeks prior to when completion activities are expected to begin. The BLM approved method will be applied within 24 hours after completion activities have begun. All lethal and non-lethal events that involve migratory birds will be reported to the Petroleum Engineer Technician immediately.

13. As specified in the White River ROD/RMP, when greater than 10% of nesting habitat within 2 miles of an active lek is directly or indirectly impacted, including cumulative loss of habitat, a timing limitation will be applied that limits further development. As such, development (i.e.,

construction-related activities) will not be allowed from **April 15** through **July 7**. This stipulation applies to all surface disturbing activities.

14. The applicant shall be required to collect and properly dispose of any solid waste generated by the proposed actions.

15. The operator will be responsible for complying with all local, state, and federal water quality regulations (such as but not limited to Phase I Storm Water Permit, Army Corps Section 404 permit coverage, and Industrial Wastewater/Produced Water Permits).

16. The operator will consult with the State of Colorado Water Quality Control Division regarding Stormwater Discharge Permits prior to commencing construction activities. Construction activities that disturb 5 acres or greater require a Phase I Stormwater Discharge Permit while construction activities that disturb between 1 and 5 acres may require a Phase II Stormwater Discharge Permit. Written documentation to the BLM Authorized Officer is required within 30 days of the APD approval date to indicate that appropriate permits have been obtained or are not required by the permitting agency. Written documentation may be a copy of the Stormwater Discharge Permit, a Certification Number, or an official letter response from the State Water Quality Control Division stating that a permit is not required for the activities in question. As a condition of the permit, a Stormwater Management Plan (SWMP) would be developed showing how Best Management Practices (BMPs) are to be used to control runoff and sediment transport. The applicant is required to have a copy of the SWMP on file with the Meeker Field Office and to implement the BMPs in that plan as on-site conditions warrant. For further information contact Nate Dieterich, WRFO Hydrologist at 970-878-3831 or Nathan_Dieterich@blm.gov. Appropriate documents may be sent via electronic mail, faxed (970-878-3805), or mailed to Nate Dieterich at the above address.

17. The operator will consult with the US Army Corps of Engineers to obtain approval prior to discharging fill material into waters of the US in accordance with Section 404 of the Clean Water Act. Waters of the US are defined in 33 CFR Section 328.3. Written documentation to the BLM Authorized Officer is required within 45 days of the APD approval date to indicate that the US Army Corps of Engineers has been notified prior to construction or that 404 Permits have been obtained or are not required by the permitting agency. Written documentation may be a copy of the Pre-Construction Notification (PCN) Form or an official verification letter from the US Army Corps of Engineers to the operator regarding the activities in question. For further information contact Nate Dieterich, WRFO Hydrologist at 970-878-3831 or Nathan_Dieterich@blm.gov. Appropriate documents may be sent via electronic mail, faxed (970-878-3805), or mailed to Nate Dieterich at the above address.

18. Surface Water: To mitigate additional soil erosion at the well pad and potential increased sediment and salt loading to nearby surface waters, interim reclamation will be required once drilling is completed. To allow optimal opportunity for interim reclamation of well pads, all tanks and production facilities will be situated on the access road side of the well pad (unless otherwise approved by the BLM). Interim reclamation will consist of excess stockpiled soils associated with pad construction being pulled back over the portion of the well pad not being utilized for production facilities and access. Portions of the well pad undergoing interim

reclamation will be returned to grade (as close as possible), promptly re-seeded, and biodegradable fabrics will be utilize on slopes exceeding 5% (e.g. fill slopes). If interim reclamation is not practical (e.g. completion of drilling operation will require an extended period time (multiple well pads)), stockpiled topsoil will be covered with biodegradable fabrics such as (but not limited to) jute netting and seeded with a BLM approved seed mixture (see vegetation section of this document).

19. Upon final abandonment of well pads, 100% of all disturbed surfaces (access roads and pad locations) will be restored to pre-construction contours, and revegetated with a BLM preferred seed mixture (see Vegetation section). Natural drainage patterns will be restored and stabilized with a combination of vegetative (seeding) and non-vegetative techniques (e.g. geotextile fabrics, woody debris, straw waddles). All available woody debris will be pulled back over recontoured areas to help stabilize soils, trap moisture, and provide cover for vegetation. Monitoring and additional reclamation efforts will persist until reclamation is proven successful (as determined by the BLM).

20. The White River Record of Decision and Approved Resource Management Plan (July, 1997) includes a list of standard Conditions of Approval to be applied to All Surface Disturbing Activities (COAs 1-12) and to Road Construction and Maintenance (COAs 13-62). **The applicant is required to be familiar with those standard COAs and to strictly abide by them unless otherwise instructed by the BLM.**

21. Ground Water: Shallow aquifers shall be protected from hydrofracturing and the production of oil and gas by installation and cementing of surface and intermediate casing. Any groundwater produced from the Fort Union or Mesaverde Formations will be hauled off and disposed of due to poor water quality and therefore preventing adverse impacts to valuable surface and ground water resources. Environmentally unfriendly substances (e.g. diesel) must not be allowed to contact soils. The use of spill-guards (or equivalent spill prevention equipment) under and around pumping equipment and frac-tanks will be used to intercept such contaminants prior to infiltrating soils and contaminating ground water. Furthermore, all pits shall be lined and all wastes associated with construction and drilling (including produced water) will be properly treated and disposed of. The operator will be required to monitor BLM spring 184-04 for water quality and flow rates starting from the first day of drilling until successful interim reclamation (as determined by the BLM) is completed. All access roads and well pads will be designed to “Gold Book” standards (as outlined above) to maintain natural surface water drainage and ground water recharge patterns.

22. The operator will be responsible for segregating topsoil material and backfilling of topsoil in its respective original position (last out, first in) to assist in the reestablishment of soil health and productivity.

23. Erosion and sediment control measures will be installed on all slopes exceeding five percent to mitigate soil loss. Erosion and sediment control measures will be maintained until stream banks and adjacent upland areas are stabilized.

24. All disturbed surfaces will be restored to natural contours and revegetated with the suggested seed mixture outlined in the Vegetation section of this EA. Interim reclamation will follow the mitigation outlined in the Water Quality portion of this document.

25. Because of potential cumulative local and regional impacts to big game dispersal and seasonal movement patterns as a result of increased oil and gas activity in areas identified as critical big game habitat, as directed by the WRFO RMP (1997) the stipulation developed specifically for big game critical summer habitat will apply. As such, no development activity is allowed from **December 1** through **April 30** for location **23-3-598**. Development is allowed from May 1 through November 30. This stipulation applies to all surface disturbing activities.

26. Road speed limits (with the exception of Rio Blanco County Road 24) will be 15 miles per hour to aid in dust abatement and improves overall traffic safety.

27. The operator has two options for treatment of slash from this project. A hydro-ax or other mulching type machine could be used to remove the trees. The machines are capable of shredding trees up to 12" in diameter and 15' tall as well as mowing brush like a conventional brush beater. It generally leaves small branches and pieces of wood from pencil size up to bowling ball size. The mulch is evenly scattered across the surface and the tires or tracks distribute the weight of the equipment. This would effectively breakdown the woody fuel and scatter the debris thereby eliminating any hazardous fuel load adjacent to the new road and well pad. The other option would be to cut trees and have them removed for firewood, posts, or other products. The branches and tops should be lopped and scattered to a depth of 24 inches or less. Material retained for reclamation on the pipeline and pad should be evenly distributed, so as to not create jackpots, and the material should not exceed 5 tons /acre in any given location.

28. The permit holder is to notify the White River Area Forester if trees are to be removed along the access road to the 23-17-198. Information requested is the width and length of the disturbance in the P/J type.

29. All trees removed in the process of construction shall be purchased from the Bureau of Land Management. The trees shall be cut with a maximum stump height of six inches and disposed of by chipping and scattered.

30. The sodium lease holders shall be notified by the operator of their plans to drill wells 23-17-198, 14-16-198 and 22-20-198 prior to the commencement of surface disturbing activities.

31. To prove ownership of any aquifer contamination or drilling influence, a fluorescent dye other than Rhodamin WT, should be added to all drilling fluids used through the Green River formation while drilling wells 23-17-198, 14-16-198 and 22-20-198.

32. For wells 23-17-198, 14-16-198 and 22-20-198 drilling fluid should be sampled and analyzed for pH and conductivity every 100 feet from surface to 100 feet below the Dissolution surface. Williams should document fluid losses during drilling operations through the Green River Formation. The analysis of the fluid samples and fluid loss documentation will be supplied to the BLM Meeker office within 30 days of drilling.

33. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing paleontological sites, or for collecting fossils. If fossil materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO).

Within five working days the AO will inform the operator as to:

- whether the materials appear to be of noteworthy scientific interest
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not feasible)

34. If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

35. An inventory of all exposed portions of rock outcrop within the project impact areas shall be inventoried by an approved paleontologist with a report detailing the results of the inventory and any recommended mitigation shall be submitted to the BLM prior to the initiation of construction of any of the proposed well pads or access roads.

36. If, at any time, it becomes necessary to excavate into any of the underlying rock in order to construct the access roads, level the well pads or excavate the reserve/blooiie pits a paleontological monitor shall be present for all such excavations.

37. Prior to construction of the access road for locations 22-20-198, 23-17-198 and 14-16-198, Williams will schedule a field meeting with WRFO Rangeland Management Specialist Mark Hafkenschiel to locate the existing waterline so that it will not be damaged/impacted by Williams' construction activities. The access road and pipeline, for the aforementioned wells will be offset a minimum of 10 feet from the 84 Mesa waterline.

38. For 12-4-398, because this location will use the same access as is being used for the existing 31-8-398 and dust abatement has to date been *nonexistent*, Williams will reconstruct the existing road so that it is above grade, crown and ditched, and surface it with gravel or magnesium chloride to correct the current *uncontrolled* dust and drainage situation.

39. All fences crossed by an access road to a well location, or pipeline will have a cattleguard installed and maintained to BLM specifications for the lifetime of the project. All cattleguard/fence work will take place prior to well location, pipeline or facility construction.

40. All fences intersected by an access road or pipeline will be braced to BLM specifications prior to cutting. A temporary wire gate will be constructed. This work will take place prior to access road/ pipeline ROW construction. A copy of the applicable BLM fence specifications will be included as part of the conditions of approval.

41. All roadside and well location cut and fill slopes will be revegetated immediately after construction with the seed mixture(s) specified in the conditions of approval. Such revegetation will be either temporary or permanent.

42. Revegetation operations will start immediately following the completion of recontouring/dirt work operations.

43. Reserve pit fencing will comply with BLM specifications as described in the BLM Gold Book (Fourth Edition, 2005). Reserve pit fence specifications will be included as part of the conditions of approval.

44. The Conditions of Approval for each APD for five of the six wells will be accepted and made a part of the right-of-way grant.

45. The Colorado-One-Call procedures will be implemented before any surface disturbing activities for the pipelines take place.

46. The pipelines for these five wells cannot be constructed until production for these wells has been proven.

47. All permanent (onsite for six [6] months or longer) structures, facilities and equipment placed onsite shall be painted Munsell Soil Color Chart Juniper Green or equivalent within six months of installation.

48. The operator will be required to maintain the fences they encounter during the project in working order (e.g., cut fence will be repaired, gates will be closed, cattleguards repaired, and fence laid down will be put up). Please note that during the month of September 2006 the BLM will be conducting wild horse gather operations in this area.

COMPLIANCE/MONITORING: On-going compliance inspections and monitoring of drilling, production and post-production activities will be conducted by White River Field Office staff during construction of well pads, access roads, and pipelines. Specific mitigation developed in this Environmental Assessment will be followed. The Operator will be notified of compliance related issues in writing, and depending on the nature of the issue(s), will be provided 30 days to resolve such issues.

NAME OF PREPARER: Brett Smithers

NAME OF ENVIRONMENTAL COORDINATOR: Caroline Hollowed

SIGNATURE OF AUTHORIZED OFFICIAL:


Fox Field Manager

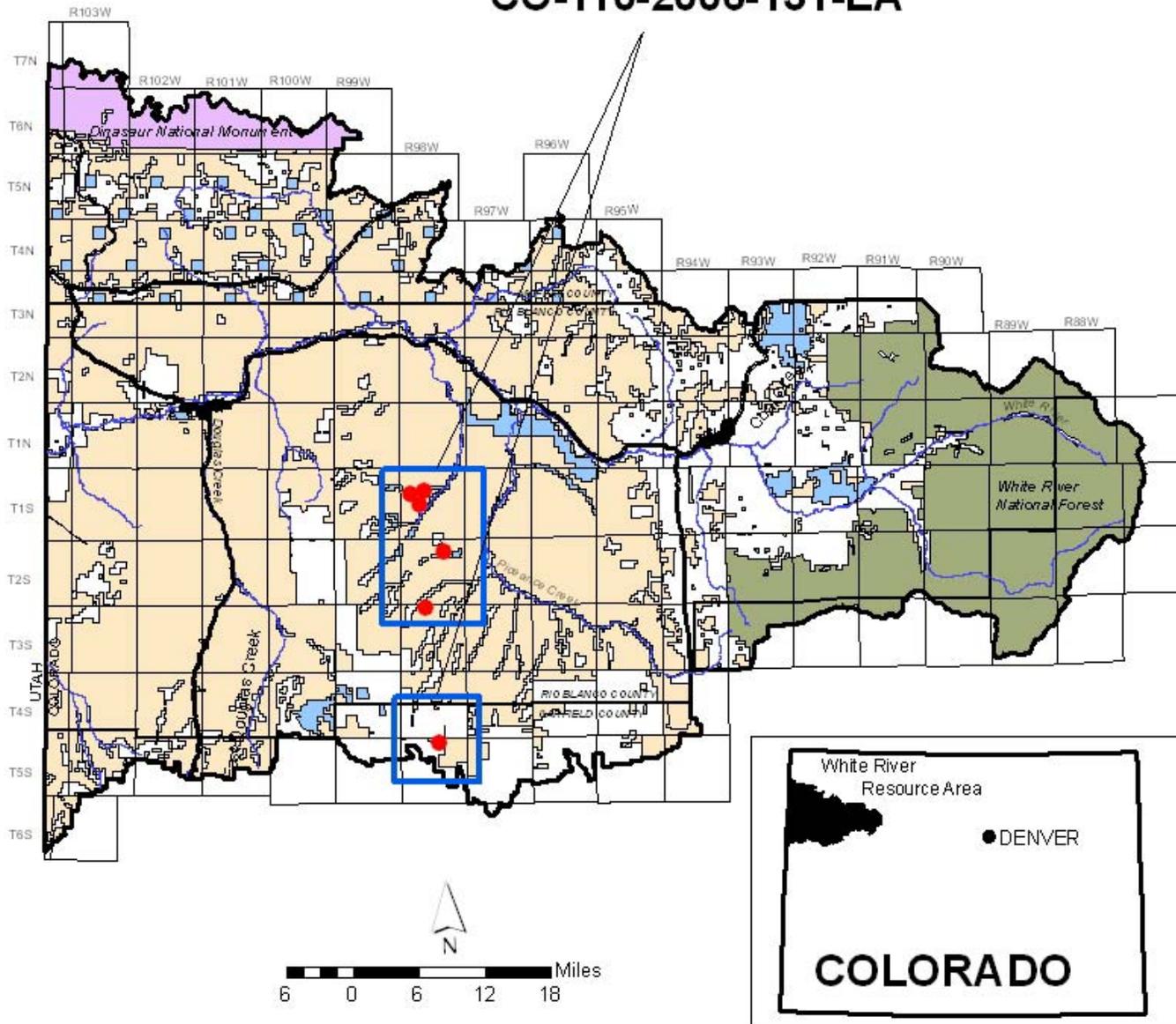
DATE SIGNED:

ATTACHMENTS: Figure 1: General Location Map of the Proposed Action

Figure 2: Map of Greater sage-grouse nesting habitat in the project area, existing developed and two-track roads, recently-approved Williams' locations 13-12-598 and 33-10-598, and the proposed 23-3-598 location and access route.

Figure 3: Map of Greater sage-grouse nesting habitat associated with the project area and the proposed access route to location 23-3-598.

Location Map of the Proposed Action CO-110-2006-131-EA



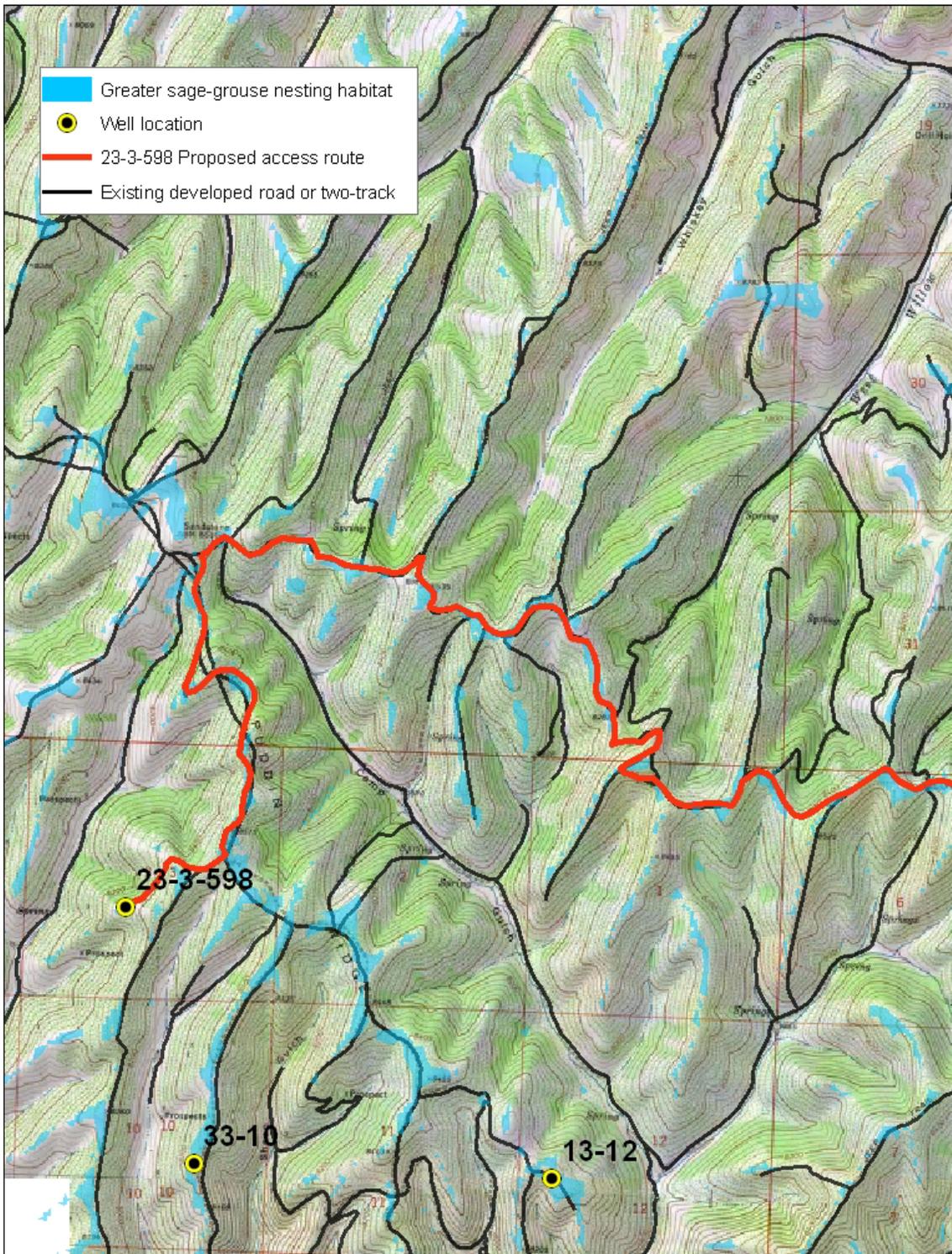


Figure 2. Map of Greater sage-grouse nesting habitat in the project area, existing developed and two-track roads, recently-approved Williams' locations 13-12-598 and 33-10-598, and the proposed 23-3-598 location and access route.

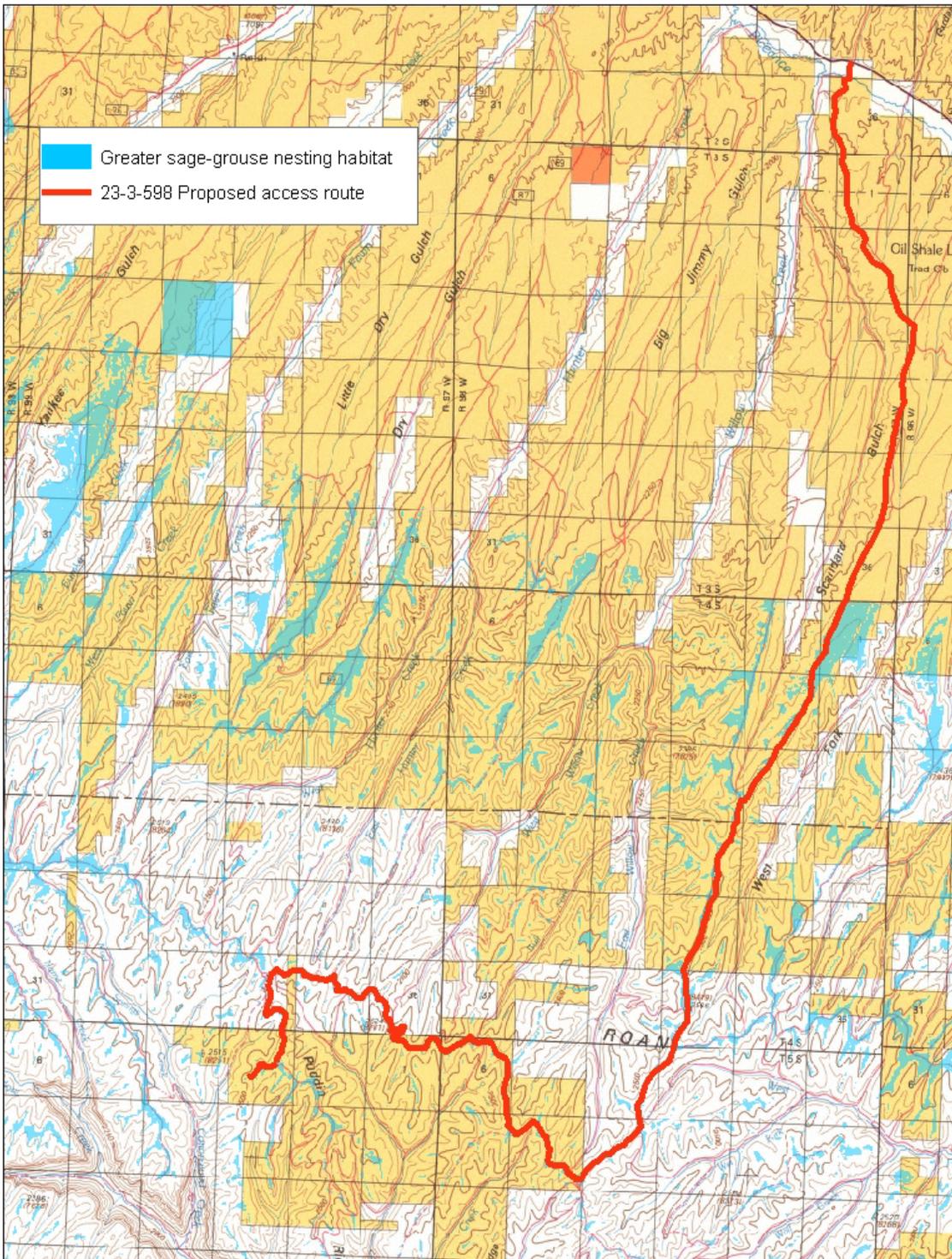


Figure 3. Map of Greater sage-grouse nesting habitat associated with the project area and the proposed access route to location 23-3-598.